



SATURDAY, MARCH 13, 1875.

**Linton's Improved Gradiometer or Altitude Instrument.**

This instrument, which is illustrated by the engraving, consists of a combined level and clinometer, in which a spirit-level, *B*, and reflecting mirror, *A*, are combined with an arm, *C*, a graduated arc and a slit in such a way that the instrument may be employed for use in laying out levels or measuring altitudes or depressions. Fig. 1 is a front view, and fig. 2 a section on the line *D E*. In the form of instrument represented by the engraving, the slit or telescopic view which gives the line of sight is represented along the line *D E*, the aperture for the eye being at *D*, the horizontal hair line being at the opposite side at *E*. At the center, *A*, of the instrument a pivoted arm, *A C*, is attached, in which is mounted a spirit-level, *B*. The hole *B* is made in the arm *B*, and also in the frame of the instrument. The spirit-level is located in this hole, so that it is exposed to the light, which is also admitted through the hole to a reflecting mirror, *A*, fig. 2, which is placed at an angle opposite the level *B*, so that the position of the bubble in the level will be reflected back to the eye of the observer at *D*. In using the instrument the line of sight *D E* is brought

instrument coincide with that grade.\* Then, starting from a point judged to be the proper place to begin the ascent, he sends his assistant forward, with a leveling rod, any distance that the nature of the ground will allow, to such a point that, by sighting through the instrument towards a target set on the rod to the height of his own eye, he observes the level bubble reflected in the mirror. Going forward to this point he proceeds in the same manner, until the summit is reached, or, until it is evident that the route must be abandoned, as the case may be.

"Thus, in a few days, an intelligent engineer, with but one assistant, may determine with certainty the most practicable route for a road, when, by the usual method, a full party would be employed for weeks in obtaining the same result."

**Contributions.**

**The Motive Power for City Railroads.**

TO THE EDITOR OF THE RAILROAD GAZETTE:

In the report of the American Society of Civil Engineers on the rapid transit question, an elevated railway system is recommended, chiefly on account of its cheapness, having on the other hand a great many objections, and being yet far from giving perfect satisfaction. But time and study will improve and correct the imperfections, and I do not doubt that in the near future we will have an easy and quick communication in our large cities. The problem which the American engineers have to solve at present is of a greater importance than some believe it, and the solution of it will be beneficial

than a boiler; they give no smoke and cannot explode. Explosion takes place only if the pressure in a boiler increases very rapidly, or if the boiler is damaged, which happens generally in the fire-box and is caused by the heat of the fire. For a reservoir the pressure will diminish from a certain initial pressure, and then the boiler never can be exploded if once fed with steam. The loss of heat is very small if a good bagging protects the reservoir. A fireless locomotive built by the Grant Locomotive Works, being of a larger size, loses but one pound of pressure per hour. There are about 20 fireless locomotives in regular use in New Orleans, and the company intends to increase their number, as they no longer doubt their success. Mr. Theodore Scheffler, of Paterson, N. J., who is the engineer of the Fireless Engine Company, has spent much time and work in studying these engines, and he designed a plan for a fireless locomotive which, I am sure, will give the best results and prove a perfect success. This locomotive, weighing only 9,700 pounds in working order, will pull a load of 10 tons a distance of 10 miles, taking in account 21 stoppings to a mile, commencing with an initial pressure of 125 lbs., and having at the end of 10 miles 75 lbs. per square inch. The initial pressure can be much higher, 200 lbs. or more, without causing any danger and giving great advantage; it only requires high pressure stationary boilers at the end stations. The loss of water is only one pound in seven stoppings. The construction of the engine itself is such as to make the use of steam the most economical, it certainly differs from that of a common locomotive, but is simpler rather than more complicated.

As to financial questions we can say the fireless locomotive is

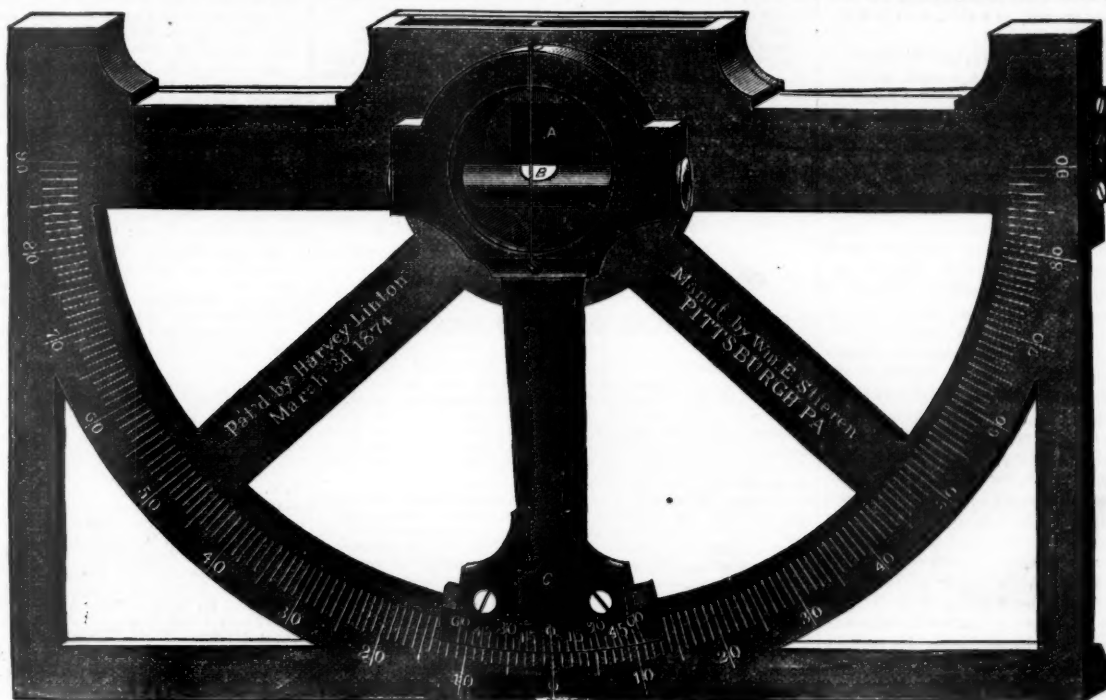


Fig. 1.

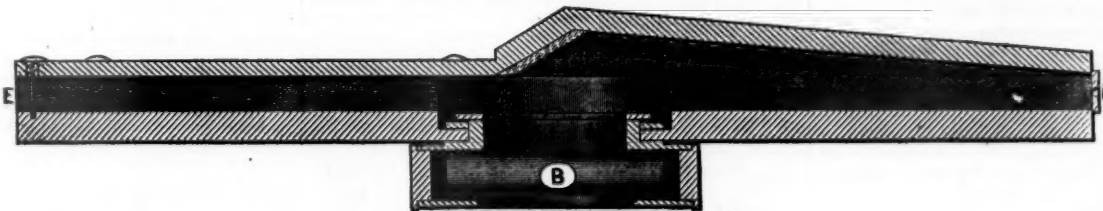


Fig. 2.

**LINTON'S COMBINED HAND-LEVEL AND CLINOMETER.**

into line with the object whose altitude or depression is to be ascertained, and the arm *B* is then shifted into position until the bubble *B* indicates that the level is horizontal. The reading on the graduated arc will then give the angle of elevation or depression.

This instrument is particularly recommended by the inventor (Mr. Harvey Linton, of Pattonville, Bedford County, Pa.) for measuring side slopes on a line of survey from stations whose elevations are known. He gives the following directions for its use:

"For measuring earth-work for preliminary estimates, and even for final side-staking in railroad construction, it is a valuable assistant. The 0 of the graduated arc and the 0 of the vernier must coincide when used as a hand-level. A telescope, instead of plain sights, is attached to one class of these instruments, and adds greatly to the distinctness with which distant objects may be observed. A small compass is combined with the instrument when desired, in which case a small tripod is also furnished.

"The practicability—or impracticability—of proposed routes for roads or railroads may in many cases be determined satisfactorily in a short time by the aid of this instrument, and expensive trial surveys avoided.

"We will suppose that in making the preliminary examination of a country, through which it is proposed to build a road or railroad, it will be necessary to cross a ridge or mountain chain; and that here various routes are suggested. The engineer having decided upon the maximum, or, rather, the highest average grade allowable, makes the reading on the

not only to New York or other cities of America, but to the whole world.

The cost is the greatest objection, but the safety of passengers and the necessity of contaminating the air, if common locomotives have to be used as motive power for city roads, are just as important, and need to be removed. As to the last, we shall not look for experience to the Greenwich Street Elevated Railroad, the trains there being not as frequent as it will be necessary to have them for rapid transit, and the fuel used on that road, being anthracite coal, does not give a visible smoke and is not noticed by inhabitants of Greenwich street, though probably it might affect the health of many without their knowing the real cause of it. In using common locomotives accidents are to be feared, such as may be caused by explosion of the boiler, which would give very fatal results on an elevated railroad. Such explosions are very rare, but they happen sometimes, and that is sufficient reason for using everything in our power to prevent them.

We need not look far to find something that answers our purpose better. I wish to speak of the "fireless locomotive," the theory of which was examined some time ago in your paper, and will be known to your readers. Such engines can be built just as light as if not lighter than common locomotives with the same capacity. The amount of water they have to carry is the same as in a boiler with a tank, and having no fire-box and no fuel their reservoir weighs considerably less

\* A table of grades per mile and per hundred feet, corresponding to different angles of inclination, is furnished with the instrument when desired.

cheaper, a great deal of fuel is saved in their use and it requires only a runner and no fireman.

These are the great advantages in using fireless locomotives for city traffic, and I believe that this new invention will diminish largely the difficulties connected with the rapid transit question.

THOS. KRAJEWSKI, M. E.

New York, Feb. 23.

**Draughtsmen in American Railroad Shops.**

TO THE EDITOR OF THE RAILROAD GAZETTE:

A communication in the GAZETTE of Feb. 27 contains a statement so far from correct as to seem worthy of notice. It may be true so far as the experience of your correspondent "H. F." extends, that in "our railway shops draughtsmen are unknown." As he appears to take a lively interest in American locomotives and to pride himself upon the adoption by the English of American practice in some of the important details, it is presumed the writer is a railroad man and a mechanic, but if so, he has evidently given but a small portion of time to the investigation necessary to qualify him to decide upon the merits of practice in American railway shops, however well posted he may be in regard to the English.

It will surprise quite a number of your old friends, Mr. Editor, many of them master mechanics, to learn they are rated as "copyists" only; certainly it is not unknown to yourself that many railways employ draughtsmen in their workshops, and that this has for many years been their practice. The writer of this has known but little of Eastern railway shops for the past 20 years, but does recollect quite well that



draughtsmen were formerly employed, in not a few of them, who might justly be styled "designers;" he also knows that to these men and to those who in many instances have succeeded them in the line of promotion and otherwise, is due credit for much of the improvement in form and method of construction which to-day makes the American locomotive the best for our own use, and as "H. F." truly states, the favorite where and whenever placed in competition with those of European build.

American builders of locomotives do not hold the railway shop designers in light esteem, and are ever ready to adopt the well-digested ideas and practice of our roads; indeed, a noted builder stated to the writer that it pleased him always to see a master mechanic come to his works with drawings for engines his company desired built, for in this way his own practice had been much improved.

If our "builders' engines" outwear the English "companies' engines" two to one, as stated by your correspondent, fresh from his investigation over the water, may we not hope to keep somewhat in advance and to hold our own as designers of locomotives?

One essential point generally overlooked by writers making these comparisons is the relative duty performed. It does not require a journey to England to know the proportions of their engines nor the work they perform for their owners, nor is there danger that we shall overlook in English practice what may improve our own; Americans do not reject improvements made by others.

The fact is, many of our American master mechanics are skilled draughtsmen; they make little display, except as their work speaks for them. They are not, as a rule, used to working by the "rule of thumb."

Our shops (many of them) are not a whit behind those of the "best tool-builders of the country" in general arrangement and in labor-saving devices.

It will profit any one who does not recognize these facts to visit the leading American master mechanics and their shops.

GEO. W. CUSHING.

#### Mr. Morgan's "Review" of the Rapid Transit Report.

TO THE EDITOR OF THE RAILROAD GAZETTE:

Among the more recent publications on the question of rapid transit is a letter from Mr. Richard P. Morgan, Jr., which the writer has thought proper to entitle a "Review of the Report of the Committee of the American Society of Civil Engineers on Rapid Transit." The "Review" appears to be, briefly expressed: That the Committee asserted, without offering proof, that an elevated way over the centres of the wide avenues, supported at the curb lines, would cost about twice as much as one taking its support in the roadway. Whereupon, Mr. Morgan, who had presented a design for a structure of the former character proportioned for a width between curb lines of 46 feet, replies, without any proof upon his part (if we except a comparison with an estimate of the committee, the "correctness" of which, he says, he is unable to "test"), that the increased cost consequent upon the use of his system would be trifling, so small indeed, it would seem, that he does not think it worth while to estimate the amount of increase for a street having a width of 60 feet between curb lines. This style of "review," in which one assertion is repelled by another, would hardly justify the present communication, were it not for the fact, that, appended to Mr. Morgan's statement is an open letter from Mr. Julius W. Adams, the President of the American Society of Civil Engineers, in which the writer says that he concurs with all Mr. Morgan's conclusions, believes that his plan fulfils the "conditions required to furnish rapid transit in great cities," "is the best which has been presented," and is especially commendable for its "stability," "efficiency" and "economy." As it is somewhat questionable whether a design which simply specifies a method of construction can, properly speaking, be called a complete plan for rapid transit; whether a truss 16 feet in height, in which lateral bracing of the top chord is impracticable, can be said to possess great "stability;" whether a height of truss of either 18 feet or 6 feet is "economical" for a span of 75 feet; whether the use, in the same span, of trusses having both these dimensions is "economical;" whether cross ties and through trusses are desirable in a railway erected over the street; and whether these details, in connection with the fact that two depots will be required at each stopping place, render the structure under consideration the most "efficient" and "economical," it would doubtless interest many of your readers to learn the reasoning by which Mr. Adams was induced to give such an unqualified endorsement to Mr. Morgan's design.

RICHARD H. BUEL.

SAMUEL BUEL, JR.

No. 80 BROADWAY, New York, March 9, 1875.

#### Transportation in Congress.

In the House on the 3d:

Mr. Townsend, of Pennsylvania, from the Conference Committee on the bill for the incorporation and regulation of railroad companies in the Territories, and giving to railroads the right of way through the public lands, made a report, the principal point in which was the striking out of the proviso giving the States that may hereafter be organized in such Territories control over the charges for transportation and freight, the same as it such right of way had been originally granted by them. This report was agreed to and the bill passed, and with the signature of the President will become a law. It is as follows:

In the Senate on the 3d:

An amendment was reported to the Sundry Civil Appropriation bill repealing so much of that bill for the year ending June 30, 1871, as requires the payment by the Northern Pacific Railroad Company of the cost of surveying and conveying the lands granted to that company; but the Senate refused to concur in the amendment.

The committee also reported an amendment striking out the appropriation of \$75,000 for experiments to test American iron and steel; but the Senate rejected this amendment and the appropriation was left as requested by the American Society of Civil Engineers.

An amendment offered by Mr. Hamlin, of Maine, raising the postage rate on merchandise from one to two cents an ounce, and especially desired by Express companies was agreed to.

In considering the River and Harbor bill, amendments were agreed to appropriating \$10,000 for completing the survey for the Chesapeake & Ohio Canal to the Youghiogheny River.

An amendment to the Eads bill for improving the mouth of the Mississippi, designating the Southwest Pass instead of the South Pass to be improved, was agreed to. Also one authorizing the Secretary of War to make a survey to ascertain the most eligible route for a canal across the Peninsula of Florida.

In the House, during the evening session of the 3d:

The Senate bill to extend the time for the completion of a railroad from the St. Croix River or Lake to the west end of Lake Superior and to Bayfield was rejected.

In the Senate on the 4th, (the last day of the session):

Various amendments to the River and Harbor Bill made the night before in Committee of the Whole were rejected, including one for the Hennepin Canal.

The bill to aid in the improvement of the Fox and Wisconsin rivers was passed.

The River and Harbor Bill was returned from a Committee of Conference of House and Senate with most of the large increases in appropriations made the day before in the Senate cut out or made lower, and Mr. Windom of that committee and the Transportation Committee, refused to sign it on that account. The total appropriation is about \$6,000,000.

In the House, on the 4th:

The River and Harbor Appropriation bill was passed as reported from the Committee of Conference.

The Forty-third Congress then adjourned.

The following bills relating to transportation were passed by it and had been approved down to March 4:

An Act giving the approval and sanction of Congress to the route and termini of the Anacostia & Potomac River Railroad, and to regulate its construction and operation.

An Act to extend the provisions of the act approved March 3, 1871, entitled "An act to provide for the collection of debts due from Southern railroads, and for other purposes."

An Act authorizing the Wisconsin Central Railroad Company to straighten the line of their road.

An Act amendatory of the act approved March 3, 1873, entitled an act authorizing the construction of a bridge across the Mississippi River at St. Louis, in the State of Missouri.

An Act to amend an act entitled an act to incorporate the Washington & Georgetown Railroad Company, approved May 17, 1862.

An act granting the right of way through the public lands to construct and maintain a railroad.

An act to provide for the incorporation and regulation of railroad companies in the Territories of the United States, and granting to railroads the right of way through the public lands.

### General Railroad News.

#### ELECTIONS AND APPOINTMENTS.

**Chicago Millington & Western.**—At the annual meeting in Chicago, March 4, the following directors were chosen: A. E. Walker, Chicago; Stephen J. Paddock, Princeton, Ill.; J. W. Eddy, Millington, Ill.; S. Dorr, Neponset, Ill.; C. L. Hoyt, Ansonia, Ill.; Lewis Steward, Plano, Ill.; John Snelling, Freedom, Ill. The board re-elected Lewis Steward, President; J. W. Eddy, Vice-President and General Manager; George N. Jackson, Secretary and Treasurer.

**Chicago, Burlington & Quincy.**—The new board has elected the following officers: President, J. M. Walker; Chairman of the board, J. N. A. Griswold; Secretary and Treasurer, A. T. Hall; Clerk and Assistant Treasurer, J. N. Denison; General Superintendent, Robert Harris. The only change is the substitution of Mr. Griswold for Mr. Denison as Chairman of the board.

**Leavenworth, Lawrence & Galveston.**—The United States Circuit Court has appointed Maj. B. S. Henning, now Superintendent of the road, Receiver in the foreclosure suit.

**Oregon & California.**—Mr. W. B. Rice, of Albany, Oregon, has been appointed Chief Operator of the company's telegraph lines.

**West Jersey.**—Mr. A. J. Cassatt has been chosen Vice-President; Frank Thomson, General Manager; Robert W. Downing, Comptroller; D. M. Boyd, Jr., General Passenger Agent; S. B. Kingston, General Freight Agent; Enoch Lewis, General Purchasing Agent. All these officers hold the same positions on the Pennsylvania. Gen. W. J. Sewell remains Superintendent.

**Atlanta & Richmond Air Line.**—Mr. J. B. Peck has been appointed Master of Transportation and succeeds Col. B. Y. Sage in the immediate management of the road. Col. Sage's title was Engineer and Superintendent. Col. Larkin Smith has been appointed Auditor, in place of Mr. James J. Davies, resigned.

**Central of Iowa.**—Mr. H. E. Cornwell has been appointed Cashier, in place of F. F. Bates, resigned.

**St. Louis, Salem & Little Rock.**—Mr. H. A. Crawford has been appointed Purchasing Agent, with office in St. Louis.

**Wyandotte, Kansas City & Northwestern.** The officers of this company are as follows: E. C. Eames, President; Thomas J. Anders, Secretary and General Ticket and Passenger Agent; A. L. Harris, Treasurer; Joseph Willett, Financial Agent; H. Hale, Superintendent; W. W. Brownhill, Master Mechanic. General offices at Kansas City, Mo.

**Lawrence.**—At the annual meeting in Pittsburg, February 26, the following directors were chosen: A. L. Crawford, R. W. Cunningham, New Castle, Pa.; G. W. Cass, John B. Jackson, J. N. McCullough, Thomas D. Messler, Pittsburg, Pa.; Caleb B. Wick, Youngstown, O. Thomas D. Messler was chosen President.

**Boston & Albany.**—The Massachusetts Legislature met in joint convention March 3 and elected John Cummings, of Woburn, and Francis B. Hayes, of Boston, State directors for the ensuing year.

**Springfield, Jackson & Pomeroy.**—This company was organized at Greenfield, O., March 2, by the election of the following directors: W. W. Bell, H. L. Chapman, J. F. Ely, James Emmet, John Foss, R. B. Seymour, John H. Thomas. The board elected James Emmet, President.

**Cleveland, Columbus, Cincinnati & Indianapolis.**—The new board of directors has re-elected J. H. Devereux, President; H. B. Hurlburt, Vice-President; George H. Russell, Secretary and Treasurer; George S. Russell, Assistant Treasurer; Alfred Ely, Auditor.

**Keokuk & Kansas City.**—At the annual meeting in Salisbury, Mo., February 17, the following directors were chosen: F. A. Jones, G. B. Lawrence, J. W. Lewis, S. H. Melvin, J. W. Morse, J. C. Noyes, L. Salisbury, H. S. Tinsman, A. C. Vandewater. The board elected S. H. Melvin, of Springfield, Ill., President; A. C. Vandewater, Vice-President; H. S. Glaze, Treasurer; Albert Blair, Secretary.

**Augusta & Summerville.**—Mr. James J. Davies, late Auditor of the Atlanta & Richmond Air Line, has been chosen President of this company.

**Corrigan & Palestine.**—The company has been provisionally

organized with the following officers: President, N. W. Hunter, Palestine, Tex.; Vice-President, J. T. Barton, Corsicana, Tex.; Secretary, A. F. Robbins; Treasurer, S. J. T. Johnson.

**Muncie, Frankfort & Western.**—The first board of directors is as follows: W. March, M. C. Smith, A. J. Bruntt, W. B. Kline, I. N. Davis, S. Ayres, J. G. Clark, W. H. Hart, J. Gamble, D. W. C. Bryant, G. W. Goodwin, S. H. Doyal, F. E. Putnam. The board elected the following officers: President, I. N. Davis, Frankfort, Ind.; Vice-President, M. C. Smith, Muncie, Ind.; Secretary, W. H. Hart, Frankfort, Ind.; Treasurer, F. C. Putnam, Muncie, Ind.

**Cincinnati, Lafayette & Chicago.**—Mr. C. E. Waldron has been appointed Auditor, and will have charge of the accounts of this company of every nature. Reports of coupon ticket sales should be sent to the General Passenger Agent, and reports of car service to the General Superintendent as heretofore, but all other reports, bills and claims, and correspondence relating thereto, should be addressed to the Auditor. He will make drafts for balances due this company, but for balances due others, drafts should be made upon J. M. Kerper, Secretary. The offices are at Lafayette, Ind.

**Keokuk Northern Line Packet Company.**—At an adjourned meeting in St. Louis, February 23, the following officers were chosen: Wm. F. Davidson, President; John Sheator, Secretary; P. S. Davidson, General Superintendent. There is some question as to the legality of the meeting and the election will probably be contested.

**Troy & Greenfield.**—At a special meeting of the directors, held February 16, Edward Appleton and Asa P. Morse, of Boston, and Francis L. Chapman, of Cambridge, were chosen directors in place of Alvah Crocker and James Cheever, deceased, and George Grennell, resigned. Hon. Lewis Rice, of Boston, was chosen President in place of George Grennell, resigned. The road has been for several years in possession of the State of Massachusetts.

**Philadelphia & Erie.**—Mr. Josiah Ray has been appointed Road Foreman of Engines on the Eastern Division. He is an old engineer, having served nine years on his present road and previously for a number of years on the Baltimore & Ohio and Philadelphia, Wilmington & Baltimore. He succeeds Mr. Jesse L. Andrus, deceased.

**Montpelier & St. Johnsbury.**—At the annual meeting in St. Johnsbury, Vt., recently, the following directors were chosen: Horace Fairbanks, Calvin Morrill, Wm. B. Hatch, Luke P. Poland, Franklin Fairbanks. The board elected Horace Fairbanks, President; Jonathan Ross, Clerk; A. W. Hastings, Treasurer.

**Essex County.**—At the annual meeting in St. Johnsbury, Vt., recently, the following directors were chosen: Horace Fairbanks, Calvin Morrill, Wm. B. Hatch, Solon S. Gould, John W. Hartshorn. The board elected Horace Fairbanks, President; Jonathan Ross, Clerk; A. W. Hastings, Treasurer.

**Michigan Central.**—Mr. Charles H. Smith has been appointed Fuel Agent, with office in Chicago. All contracts for the purchase of coal, wood, ties and lumber on account of the company will hereafter be made by him, and all vouchers for either must be certified by him before payment. He will also have charge of the distribution of the supplies of the above-named articles, and requisitions for the same must be made on him.

**Montclair.**—Mr. T. C. Purdy has been appointed Superintendent by the Trustees, in place of Mr. G. W. N. Custis, resigned. His office is in Jersey City, N. J.

**Long Island.**—Mr. George W. N. Custis, late of the Montclair Railroad, has been appointed Superintendent, in place of John B. Morford, resigned. His office is at Long Island City, N. Y.

**Milwaukee & Dubuque.**—At the stockholders' meeting in January last the following directors were chosen: H. M. Benjamin, W. C. Williams, J. H. Stearns, Louis Auer, L. Trimborn, Milwaukee; C. W. Smith, Elk Troy, Wis.; L. Martin, Vernon, Wis.; J. H. Landerdale, East Troy, Wis.; Chas. Loomis, Troy, Wis. The board subsequently elected officers as follows: President, H. M. Benjamin; Vice-President, C. W. Smith; Secretary and Chief Engineer, J. H. Stearns; Treasurer, Louis Auer; Attorney, W. C. Williams.

**Indianapolis & St. Louis.**—Mr. R. B. Woolsey has been appointed train master of the entire line.

**Delaware & Hudson Canal.**—Mr. D. Farlin, late General Freight Agent of the New York & Oswego Midland, has been appointed Assistant General Freight Agent.

**Memphis & Little Rock.**—The new board of directors has re-elected W. B. Greenlaw, President; Hugh L. Brinkley, Vice-President, and Capt. John Darden, Treasurer and Secretary.

**Parkton & Manchester.**—At a meeting held in Parkton, Md., February 27, John Merriman, Daniel Beckley, Jacob Shambarger, George W. Hare, Christian Royer, George Everhart and Edward Osler were chosen directors. The board elected John Merriman President and Lewis C. Myerly Secretary.

**Selma, Marion & Memphis.**—At the annual meeting in Memphis, Tenn., March 4, the following directors were chosen: R. A. Murdock, Okolona, Miss.; Porter King, J. B. Shivers, Marion, Ala.; Napoleon Hill, J. C. Neely, W. W. Guy, E. M. Apperson, A. J. White and R. C. Daniel, Memphis, Tenn. The board subsequently elected Porter King, President; W. W. Guy, Vice-President; R. C. Daniel, Secretary and Treasurer; General E. W. Rucker, Chief Engineer and General Superintendent; Colonel Sam. Meek, Attorney.

**New Jersey Midland.**—Chancellor Runyon, of New Jersey, has appointed Hon. Garrett A. Hobart, of Paterson, Receiver. Mr. Hobart has been a director of the company almost from the commencement.

**Housatonic.**—At the annual meeting in Bridgeport, Conn., February 26, the old board of directors was re-elected, as follows: Wm. H. Barnum, Lime Rock, Conn.; George W. Peet, Falls Village, Conn.; Andrew B. Mygatt, New Milford, Conn.; Horace Nichols, Wm. D. Bishop, Bridgeport, Conn.; David S. Draper, Great Barrington, Mass.; Henry S. Leavitt, Charles A. Peck, Samuel Willett, New York. The board re-elected Wm. H. Barnum, President; David S. Draper, Vice-President; Charles C. Averill, Secretary and Treasurer.

**Quincy, Missouri & Pacific.**—At the annual meeting in West Quincy, Mo., March 2, the following directors were chosen: George Adams, George Bond, C. H. Bull, Amos Green, Thomas Jasper, E. W. Miller, Daniel Paulin, C. M. Pomroy, Thomas Redmond, Henry Root, J. G. Rowland, Quincy, Ill.; J. M. De France, Kirksville, Mo.; G. E. House, Rockport, Mo. The new directors are Messrs. Bond and Miller, who replace M. G. Roseberry and A. P. Cogswell.

**New Orleans, Mobile & Texas.**—Mr. D. B. Robinson has been appointed Acting Superintendent with office at New Orleans, in place of C. H. Allen, who takes charge of the road west of the Mississippi. John J. Howell has been appointed General Passenger and Ticket Agent in place of E. P. Shute and R. D. Carpenter. The office of the Trustee, Mr. A. J. Raynor, has been removed to New Orleans.

**Coast Line.**—At the annual meeting in Savannah, Ga., March 3, the old board of directors was re-elected, as follows: Henry Ambrose, M. J. Desaversers, T. H. Harden, Alfred Haywood, John Kelly, J. M. B. Lovell, O'Connor, F. J. Buckert, D. Wells. The board re-elected A. Haywood President and Capt. John R. Dillon, Secretary and Treasurer.

**United States Senate Committees.**—The Senate elected its standing committees March 9, and those having most



to do with transportation questions are: On Transportation Routes to the Seaboard.—Mr. Windom, Chairman; Messrs. Sherman, Conkling, West, Conover, Mitchell, Norwood, Davis and Johnston, of Virginia. On Railroads.—Mr. West, Chairman; Messrs. Hitchcock, Cragin, Howe, Hamilton, Mitchell, Sargent, Dawes, Ransom, Kelly and Caperton. On Post Offices and Post Roads.—Mr. Hamlin, Chairman; Messrs. Ferry, of Michigan; Dorsey, Jones, of Nevada; Dawes, Paddock, Saulsbury, Johnson, of Tennessee, and Maxey. On Commerce.—Mr. Conkling, Chairman; Messrs. Spencer, Boutwell, Cameron, of Wisconsin; McMillan, Gordon, Dennis and McDonald.

**Pacific Mail.**—Messrs. Sidney Dillon, Jay Gould, Oliver Ames and George G. Forrest have been chosen directors in place of F. A. Alexandre, Wm. H. Guion, Russell Sage, F. L. Talcott and A. J. Hatch, resigned. Messrs. Dillon, Gould and Ames are directors, Mr. Dillon being President, of the Union Pacific, and Mr. Forrest is a director of the Panama Railroad Company. Gen. D. D. Colton, of the Central Pacific, has also been chosen a director, but has declined. The reorganized board has elected Sidney Dillon President, in place of F. A. Alexandre, and George S. Scott, Vice-President.

**Union Pacific.**—At the annual meeting in Boston, March 10, 329,668 shares were voted on and the following directors unanimously elected: Oliver Ames, Elisha Atkins, F. Gordon Dextler, Benjamin E. Bates, Oliver Ames, 2d, Ezra H. Baker, Sidney Dillon, Jay Gould, Charles J. Osborne, George S. Scott, Samuel M. Mills, James D. Smith, Joseph Richardson, G. M. Dodge and John Sharp. Messrs. Dodge and Sharp are the only directors who were not chosen at the annual meeting last year, and of these Mr. Sharp has been a director for some months.

### TRAFFIC AND EARNINGS.

—The earnings of the St. Louis, Iron Mountain & Southern Railway for the third week in February were: 1875, \$82,834; 1874, \$58,113; increase, \$24,721, or 42% per cent.

—The anthracite coal tonnage of the lines given for the two months ending February 27 was as follows:

	1875.	1874.	Inc. or Dec.	P. c.
Delaware, Lacka. & West.	338,987	349,815	Dec. 11,128	2%
Lehigh Div., Cent. of New	45,672	140,944	Dec. 95,272	53%
Dal. & Hudson Canal Co.	306,987	288,699	Inc. 108,288	37%
Penna. Coal Co., over Erie	180,811	162,467	Inc. 18,344	11%
Railway	77,903	64,863	Inc. 13,040	20%
Shamokin Div., Northern	37,818	37,505	Inc. 313	0%
Summit Branch	1,097,878	1,044,293	Inc. 53,585	5%

—The anthracite coal tonnage of the lines given (whose year begins December 1) for the three months ending February 27 was as follows:

	1875.	1874.	Inc. or Dec.	P. c.
Philadelphia & Reading	591,846	914,145	Dec. 322,299	35%
Schuylkill Canal	8,869	11,384	Dec. 2,515	22%
Lehigh Valley	593,716	763,665	Dec. 229,949	30%
Totals	1,34,431	1,680,194	Dec. 335,763	32%

This very large decrease is mainly due to the general suspension of work in the collieries pending the settlement of the dispute as to the basis of wages for the ensuing year.

—Cotton receipts at New Orleans for the six months of the crop year from September 1 to March 1 were 833,975 bales, a decrease of 144,073 bales, or 17% per cent. from last year. Shipments for the same period were 702,044 bales.

—The earnings of the Camden & Atlantic Railroad for 1874 were as follows:

	1874.	1873.	Increase.	Decrease.	P. c.
Earnings	\$529,886 80	\$508,986 03	\$20,899 77		4.1
Expenses	288,139 71	298,408 72		\$10,269 01	3.4
Net earnings	\$241,747 09	\$210,597 31	\$31,150 78		14.8
Per cent. of expenses, 1874, 54.38; 1873, 58.63.					
Earnings per mile, 1874, \$7,908; 1873, \$7,597.					

—The earnings of the Quincy, Missouri & Pacific Railroad for 1874 were:

	1874.	1873.	Increase.	P. c.
Earnings	\$107,151 07	\$92,739 29	\$14,411 78	15.6
Expenses	90,602 19	85,549 00	5,116 19	6.0
Net earnings	\$16,488 88	\$7,190 29	\$9,298 59	129.3
Per cent. of expenses, 1874, 84.62; 1873, 92.24.				
Earnings per mile, 1874, \$1,531; 1873, \$1,325.				

—The earnings of the Great Western Railway of Canada for the week ending February 12 were: 1875, \$14,999; 1874, \$22,560; decrease, \$7,561, or 33% per cent.

—The earnings of the Grand Trunk Railway for the week ending February 13 were: 1875, \$24,900; 1874, \$29,300, decrease, \$4,400, or 36% per cent. The traffic was almost stopped by snow.

—The earnings of the Illinois Central Railroad for 1874 were as follows:

	1874.	1873.	Increase.	P. c.
Earnings (\$7.175 per mile)			\$7,947,855	
Expenses (\$0.70 per cent.)			4,020,150	
Net earnings (\$3.537 per mile)			\$3,927,705	

The decrease in earnings was \$386,739, or 4.6 per cent.; the decrease in expenses, \$560,959, or 12.4 per cent.; the increase in net earnings, \$183,220, or 4.9 per cent.

—The earnings of the Detroit, Lansing & Lake Michigan Railroad for 1874 were:

	1874.	1873.	Increase.	P. c.
Earnings (\$4.295 per mile)			\$807,697 38	
Expenses (\$4.38 per cent.)			459,254 16	
Net earnings (\$1.949 per mile)			\$368,443 22	

The road carried 281,817 passengers and 269,267 tons of freight. The increase in gross earnings over 1873 was \$97,976.42, or 13.8 per cent.

—The St. Louis Railway Register gives the coal receipts at St. Louis for January as follows, in tons:

	1875.	1874.
Belleville & Southern Illinois	33,786	18,620
Illinois & St. Louis	16,292	7,580
St. Louis & Southeastern	15,948	7,370
Ohio & Mississippi	13,128	8,370
Calo & St. Louis	1,444	3,380
Indianapolis & St. Louis	1,368	1,440
Vandalia Line	14,430	5,090
Other sources	442	1,300
Totals	96,033	48,500

—The tonnage of Cumberland coal over the Baltimore & Ohio Railroad for the two months ending February 27 was: 1875, 119,077; 1874, 126,810; decrease, 7,733 tons, or 6% per cent. Neither of the other two lines from the Cumberland region have reported tonnage.

—The earnings of the Central Pacific Railroad for February were: 1875, \$902,000; 1874, \$804,044; 1873, \$685,640; increase, 1875 over 1874, \$97,956, or 12% per cent.; increase, 1875 over 1873, \$216,360, or 31% per cent. For the two months ending February 28 the earnings were: 1875, \$1,792,000; 1874, \$1,632,000; 1873, \$1,581,283; increase, 1875 over 1874, \$159,398, or 9% per cent.; increase, 1875 over 1873, \$210,717, or 13% per cent.

—The earnings of the Marietta, Pittsburgh & Cleveland Railway for the year 1874 were:

Earnings (\$1,373 per mile)	\$133,204 96
Working expenses (68.67 per cent.)	92,497 25
Net earnings (\$430 per mile)	\$41,717 71

—The tonnage of coal forwarded to all parts by the Pennsylvania Railroad in 1874 was:

	Anthracite.	Bituminous.	Total.
Eastward	642,273	2,169,082	2,811,355
Westward	263,993	1,134,019	1,398,012
Total	906,266	3,303,071	4,209,337

This is a greater tonnage than any coal road has, except the Reading, but probably a large proportion of it was received from other roads and not produced directly on the Pennsylvania's lines.

—The earnings of the Louisville, Cincinnati & Lexington road for January were:

Earnings (\$376 per mile)	\$86,760 38
Expenses (74.07 per cent.)	64,265 21
Net earnings (\$97 per mile)	\$22,495 17

—Additional earnings for the year 1874 have been reported as follows:

	1874.	1873.	Inc.	Dec.	P. c.
Camden & Atlantic	\$529,887	\$508,986	\$20,901		4.1
Detroit, Lansing & Lake Michigan	807,697	709,732	97,975		13.8
Detroit & Milwaukee	1,151,207	1,204,277			4.5
Illinois Central	7,947,855	8,394,594			4.6
Marietta, Pittsburgh & Cleveland	133,205				
Quincy, Missouri & Pac.	107,151	92,739	14,412		15.5

—The earnings of the Union Pacific Railroad for the year ending December 31 were:

	1874.	1873.	Inc.	Dec.	P. c.
Earnings	\$10,559,880.12	\$10,266,103.66	\$293,776.46		2.8
Expenses	4,652,314.95	4,974,861.02		\$322,546.07	6.5
Net earnings	\$5,907,565.17	\$5,291,242.64	\$616,322.53		11.6
Per cent. of expenses, 1874, 44.05; 1873, 48.46.					
Earnings per mile, 1874, \$10,232; 1873, \$9,948.					

—The following companies have thus far reported earnings for February:

	1875.	1874.	Inc.	Dec.	P. c.
Central Pacific	\$902,000	\$804,044	\$97,956		12%
Denver & Rio Grande	23,670	18,796	4,874		25%
Illinois Central	458,158	517,674			11%
International & Great Northern	112,560	108,061	4,499		4%
Ohio & Mississippi	243,624	243,077	547		0%
St. Louis, Iron Mt. & So.	285,260	217,987	67,273		31%

### PERSONAL.

Col. H. B. Andrews, General Manager of the Galveston, Harrisburg & San Antonio road, was presented with a valuable silver set by the officers and employees of the road at Galveston, Tex., March 2.

—Mr. Hudson E. Bridge, who died recently in St. Louis, was an extensive manufacturer, had acquired a considerable fortune and was largely interested in railroads. He was for two years President of the Missouri Pacific, was also connected with the St. Louis & Iron Mountain and the Ohio & Mississippi, and a director of the Illinois & St. Louis Bridge Company.

—Mr. Jesse L. Andrus, Road Foreman of Engines on the Eastern Division of the Philadelphia & Erie, was killed in the Pennsylvania Yard at Harrisburg February 18. He was crossing the yard to reach a train on which he desired to get, when, in endeavoring to get out of the way of an approaching switch engine, he slipped and fell, the engine passing over him at the hips. He lived only a few minutes.

—The report runs in Chicago that John F. Tracy will decline a re-election as President of the Chicago, Rock Island & Pacific at the annual meeting next June, and that Jay Gould will take his place. Whether there is any foundation for the report, no one seems to know.

—Mr. John B. Morford has resigned his office as Superintendent of the Long Island Railroad to take a position at the West.

—Col. Thomas H. Wynne, for some time President and a large stockholder in the Richmond & Petersburg Railroad Company, died in Richmond, Va., February 25.

—Mr. George Hancock has resigned the position of Freight Auditor of the Michigan Central Railroad on account of continued ill health, after many years of faithful service to the company.

—Mr. John W. Garrett, President of the Baltimore & Ohio Railroad Company, was to leave Baltimore this week on a trip through the South with his family. He travels in his own car, which is provided with adjustable trucks so that it can be run on standard or five-foot gauge. Mr. Garrett's tour is expected to last for several weeks, and to extend as far as Florida.

### THE SCRAP HEAP.

#### Railroad Manufactures.

Bowers, Dure & Co., of Wilmington, Del., have, it is said, secured a contract for a number of passenger cars for the North Pennsylvania Railroad.

The Blair Iron & Steel Company, which manufactures steel by the Blair direct process, is putting up a new furnace at its works in Pittsburgh, Pa., which will increase its capacity to 94 tons of steel ingots per week.

The Danforth Locomotive Works at Paterson, N. J., have 400 men employed and are running full time. Only a part of the men are employed on locomotive work.

The New Albany (Ind.) Rolling Mills have started up, having secured several contracts for iron rails.

The Phillipsburg Manufacturing Company is to be dissolved and the works at Phillipsburg, N. J., sold to a new company which will continue the manufacture of bridges and wrought-iron work on a larger scale.

The Jacksonville (Ill.) Car Works are, it is said, to be changed into a paper barrel factory.

The Schenectady Locomotive Works have 150 men employed, but the force is to be increased. Work has been begun on an order for 12 heavy ten-wheel engines for the Central Pacific.

The New Albany (Ind.) Rolling Mills have resumed work, and have about 250 men employed.

The Indianapolis Rolling Mills are at work on a contract for 1,000 tons of iron rails for the Cincinnati, Hamilton & Indianapolis road.

The rolling mill of the St. Albans Iron & Steel Company at St. Albans, Vt., resumed work March 2, after a stoppage of four months. Six heating furnaces are in blast. The puddling mill is running single turn with all the furnaces.

The Kentucky Rolling Mill at Louisville, Ky., has been improved by the addition of new machinery for the manufacture of light T rails and street rails, and its trade therein is constantly increasing.

The Pittsburgh & McKeesport Car Company has orders for a narrow-gauge engine and a number of cars for the Ohio & Toledo road besides some engines for shifting at furnaces. The North Chicago Rolling Mills have orders for all the

steel rails they can make for six months, but have little demand for iron at present.

The Union Rolling Mills, of Chicago, have orders for steel rails which will probably keep them at work for a year, have considerable orders for iron, but have room for more, and are erecting a new mill which will be ready for work in April.

### Prices of Rails in February.

Bigelow and Johnson report foreign iron at \$46 to \$47, and steel at \$80 to \$82 gold per ton, and American iron at \$47 to \$50, and steel at \$75 to \$76 currency per ton. Old rails \$29 to \$30 currency for T patterns. There were no imports at New York of iron, either this year or last, in January or February, and no imports of steel this year against 9,686 tons in 1874. The firm say:

**New Rails.**—The market continues dull and listless both for iron and steel, the only transaction worthy of note being the closing of a contract by the Cincinnati Southern Railroad with the Cleveland Rolling Mill Co. for 12,500 tons iron and 11,000 tons steel, the former at \$52.75 per ton and the latter at \$76.77, delivery at Ludlow, Ky.

Outside of this transaction there has been but little done. **Old Rails.**—Rather more enquiry and prices somewhat improved.

### Albany & Rensselaer Iron and Steel Company.

A corporation by this name has just been organized at Troy, N. Y., and takes the place of the firm of John A. Griswold & Co., which has been dissolved. The new enterprise goes at once into full operations and continues the business of the former firm. It also includes the Albany Iron Works, lately owned by Erastus Corning & Co. Of the new corporation Erastus Corning is President; Chester Griswold, Vice-President; James E. Walker, General Manager, and Selden E. Marvin, Secretary and Treasurer. This corporation embraces probably a larger tonnage than any other manufacturing organization in the United States, each of the consolidated firms having owned extensive works.

### The Loughbridge Brake.

A trial of this brake was made on the Western Maryland Railroad, March 6, an account of which is given in the Baltimore papers. The train is said to have been stopped on a down grade of 25 feet with a speed of 40 miles per hour in 22 1/2 seconds. Other stops were made on level grades in from 12 to 14 seconds.

### OLD AND NEW ROADS.

#### Ogdensburg & Lake Champlain.

It is reported that the Central Vermont Company is negotiating to surrender the lease of this road and turn it over to the company which owns it. It is also rumored that the Central Vermont is trying to withdraw from its connection with the Northern Transportation Company, whose steamers in the lake trade have not been making much money the past two seasons. Orders have been given to stop, for the present, the usual spring repairs on the boats which were in progress.

#### Pennsylvania—New York Division.

After a trial of two months the system of employing assistant conductors or collectors on the passenger trains to take up all the tickets and fares, leaving to the conductor only the general charge of the train, has been abandoned. The collectors have all been discharged and the conductors have the collection of fares made part of their duty, as it was before. No reason is given, but it is fair to presume that the company found that the advantages of the system were not great enough to counterbalance the expense of the extra men.

#### The Poughkeepsie Bridge Line.

The committee of Boston merchants who examined this line have made a long report in which the building of the bridge over the Hudson at Poughkeepsie is strongly recommended as a measure likely to be of great benefit to Boston and New England. Pending the building of the bridge much benefit may be derived from the use of the ferry at Newburg as a link in the line to the west and especially to the Pennsylvania coal fields.

In order to reach the river from the east the completion of the Hartford, Providence & Fishkill road is urged. Much of the work between the present terminus and the Hudson is done and its grades and curves are more favorable than those of the already completed line by the Connecticut Western. Mention is made of the various lines projected and partially finished from the coal region to Poughkeepsie and Newburg, a preference being apparently given to the South Mountain & Boston, now under construction.

A large part of the report is occupied by a consideration of the cost of carrying coal from the mines to Boston by the lines now in existence as well as by those proposed.

#### Virginia Railroad Commission.

The Virginia House of Delegates has passed to engrossment the bill providing for a railroad commission to consist of the Governor, Treasurer and Secretary of the Commonwealth. The board is to have a general supervision of the railroads of the State, to examine their condition, equipment and management, see that the companies obey the laws, investigate charges which may be made and recommend changes or improvements which may seem desirable. An annual report is to be made to the Legislature. The bill is said to be pretty sure of passing.

#### Wisconsin Central.

The Wisconsin Legislature has passed the act authorizing this company to build its road between Portage and Stevens Point on the most direct feasible line, instead of on the line prescribed by the original charter. For the section so built it shall be entitled to receive the full grant voted for the road from Portage to Stevens Point.

#### Freight Rates on California Traffic.

The Union Pacific Railroad and the Pacific Mail Steamship Companies have agreed on a new tariff on freight from New York to San Francisco. The new rates per 100 pounds are as follows:

	First class.	Second class.	Third class.	Fourth class.	Class A.	Class B.	Class C.	Class D.
Al rail	\$5 00	\$4 00	\$3 00	\$2 50	\$3 25	\$3 00	\$1 75	\$1 50
Steamer	4 50	3 50	2 50	2 25	2 00	1 75	1 50	1 30

The increase over the old rates varies from 40 to 100 per cent. Taking the most direct rail line the rail rate on first class is equal to 3.017 cents per ton per mile, and on fourth class to 1.508 cents.

#### Toledo, Wabash & Western.

A special meeting of the stockholders has been called, to be held in Toledo, O., May 12, to consider measures for the relief of the company from its present embarrassments. Three propositions will be submitted, an increase of the common stock \$5,000,000; an increase of the preferred stock \$5,000,000; and a cash assessment on the stock sufficient to pay off the floating debt and over-due coupons.

Continued on Page 107.





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## Editorial Announcements.

**Addresses.**—Business letters should be addressed and drafts made payable to THE RAILROAD GAZETTE. Communications for the attention of the Editors should be addressed EDITOR RAILROAD GAZETTE.

**Contributions.**—Subscribers and others will materially assist us in making our news accurate and complete if they will send us early information of events which take place under their observation, such as changes in railroad officers, organizations and changes of companies, the letting, progress and completion of contracts for new works or important improvements of old ones, experiments in the construction of roads and machinery and in their management, particulars as to the business of railroads, and suggestions as to its improvement. Discussions of subjects pertaining to ALL DEPARTMENTS of railroad business by men practically acquainted with them are especially desired. Officers will oblige us by forwarding early copies of notices of meetings, elections, appointments, and especially annual reports, some notice of all of which will be published.

**Advertisements.**—We wish it distinctly understood that we will entertain no proposition to publish anything in this journal for pay, EXCEPT IN THE ADVERTISING COLUMNS. We give in our editorial columns OUR OWN opinions, and those only, and in our news columns present only such matter as we consider interesting and important to our readers. Those who wish to recommend their inventions, machinery, supplies, financial schemes, etc., to our readers can do so fully in our advertising columns, but it is useless to ask us to recommend them editorially, either for money or in consideration of advertising patronage.

## THE AMERICAN SOCIETY OF CIVIL ENGINEERS AND "RAPID TRANSIT."

At a meeting of this Society held on the 3d of September last, it was

"Resolved, that a committee of five members be appointed by the President, to investigate the necessary conditions of success, and to recommend plans for,

"First, The best means of rapid transit for passengers, and  
"Second, The best and cheapest methods of delivering, storing and distributing goods and freight in and about the city of New York, with instructions to examine plans, and to receive suggestions such as parties interested in the matter may choose to offer, and to report on or before the first day of December, 1874."

Such a committee was appointed, in accordance with that resolution, but, owing to the magnitude of the subjects submitted for investigation and the great amount of material sent in for consideration, they were unable to report until the regular meeting of the Society held on the 3d of February. On that occasion the announcement that the report would be read, or some other cause, attracted a rather larger number of members than ordinarily attend the meetings. As soon as the meeting had been called to order, and even before, it became evident that some common feeling of hostility among a portion of the members present to the Report which the Committee on Rapid Transit were expected to present. Before the Report was read, and when its purport was unknown to the majority of those present, active opposition was set on foot to prevent the Society from receiving it and to ignore its own action in appointing the Committee. The injustice of such a measure was, however, so apparent that the members present insisted on having the Report before taking any action. After the report was read, an excited debate followed, the burden of which was, that the opposition thought that the appointment of a committee to investigate and report on the subject of rapid transit was unwise, and that the Society should, if possible, retreat from its action in the appointment of the Committee, and should distinctly ignore any responsibility for the opinions or conclusions contained in the report. The active participants in the discussion seemed haunted by a vague terror that "the public" would in some way hold the Society responsible for a report made by its Committee, which certainly is a novel interpretation to put on parliamentary law. If such a rule prevailed, then if members of a committee, as often happens, make majority and minority reports, in which incompatible or contradictory opinions or conclusions are expressed, the body creating the committee would be bound by conflicting doctrines. During the debate all sorts of motions were made to refer the report back to the Committee, to give the latter leave to withdraw it, to ignore all

responsibility for it by the Society, etc., etc. During this discussion there was not one word uttered regarding the soundness of any of the facts, opinions or conclusions presented by the report, nor any objection made on that ground to receiving it. As the Committee had been appointed by the Society at a meeting held five months before, and as no word of objection had been heard in all that time to either the action of the Society or to the investigations of the Committee, it will be seen that the position occupied by the opposition was somewhat awkward, and therefore it was not surprising that several efforts were necessary before a resolution could be found to meet the embarrassing circumstances. After several attempts the following was finally adopted:

"Whereas, there are grave doubts in the Society on the propriety of this association taking such action upon the Report on Rapid Transit as may be construed into an endorsement thereof by the Society; therefore,

"Resolved, That the admirable reports\* presented to-day be accepted with thanks; the Committee by discharged, and the paper\* published in the usual course of a paper\* contributed by the subscribing members of the Committee, and that this resolution be printed in its head."

The ostensible reasons given for this somewhat extraordinary action, so far as could be gathered from the discussion, were, first, that it is unwise for the Society to appoint special committees to investigate and report on subjects involving such large pecuniary and vested interests as pertain to rapid transit; and, second, that the Society should not investigate or express an opinion on incomplete works, in the construction of which other engineers are engaged; third, that the investigation and the report of the Committee attracted public attention and were discussed in the newspapers.

Now if the first doctrine prevails, that no subject should be investigated and reported on by special committees if there are large pecuniary interests involved, then it will make all such investigations and reports impossible hereafter, because there are no engineering subjects of any interest which are not of great pecuniary importance. According to this doctrine, the Report of the Committee on Rails, on the Mill River Dam Disaster, on Railroad Signals, and on Bridges, should all be suppressed, or be "published as papers contributed by the subscribing members of the committees." It can readily be imagined that owners of rolling mills which are equipped with complete sets of rolls for manufacturing old and superannated patterns of rails would object to the interference with their vested rights by the committee which recommended improved forms. The constructors and owners of the Mill River dam, doubtless, were indignant that a committee of the Society should be so indiscreet as to tell the truth so plainly about the cause of that melancholy disaster; and if the Committee on the Strength of Bridges should recommend a standard for the strength of such structures, there will doubtless be a long and aggressive howl from the whole fraternity of "tin-pan engineers."

If the second objection to such reports should be maintained, the Society will place itself in the anomalous position of declining to investigate the security of any engineering work until it fails; that is, after a dam has been swept away or a bridge has broken down and destroyed many lives and much property, the Society will be prepared to express an opinion of the defects in such structures. In other words, it will devote all its skill and ability to the construction of locks which will make stables secure after the horses are stolen.

It would, it is believed, be entirely safe for those members who organized the opposition to the Rapid Transit Report to pass a resolution declaring it to be a culpable act for any member of a committee of the Society to do any work which attracts public attention, because, in all probability, very few of the members referred to would ever be convicted under such a rule; but it was seriously urged during the discussion referred to that when the Society appointed the Committee it was not intended that the subject should get into the papers, and therefore, owing to the fact that the members of the Committee were daily importuned by reporters who gathered such crumbs of information as they could, and then presented them to the public with various inaccuracies of statement and wrong inferences and conclusions, that the Committee had been guilty of unbecoming conduct, and consequently its report should not be received for fear that the action of the association "might be construed into an endorsement thereof by the Society."

Now if the effect of the resolution which we have quoted was no other than that of suppressing the report and admonishing the Committee, it would be a matter of very little importance to our readers; but the action involves the question which is behind it, whether it is wise for the Society to investigate matters of immediate practical interest by the appointment of special committees for that purpose. We are quite ready to admit that this system is open to abuse, but that fact is not sufficient to justify the entire abandonment of the system, but should lead only to guarding against abuse, for which purpose the resolution introduced at the last meeting requiring that notice shall be given one month in advance before a special committee can be appointed, although open to some

\* The italics are ours.

objections in the form in which it was presented, nevertheless seems to have much to recommend it.

Precisely what the motives were which inspired the actions of those who urged the passage of the resolution ordering the Report printed as a "paper" is not apparent, but, whether knowingly or not, they have struck a blow which, unless it is promptly resisted, will prevent any committee work from being done in future. As was stated by a correspondent in these pages a few weeks ago, if the Society after careful deliberation determines not to appoint any committees in future, there can be no question that it has the right to do so, but whether it would be wise to take such action or not is a question which should be very fully and publicly discussed. Whether the method of collecting information by the labors of special committees has, after a trial of over two years, been sufficiently successful, and whether the reports thus made have enough value to justify a continuance of this system, is a question for the members of the Society to decide; but this should be done only after the most careful consideration and discussion. That method has the very essential advantage that when a committee is appointed by the Society the latter makes a formal request to the members to investigate the subject submitted to them, and therefore in seeking for information they are asking in the name and with the authority of and for the Society. It is not surprising, therefore, that a committee will sometimes find channels of information opened to them which would be closed to members without such an appointment. If, then, after such a committee has been appointed, and after it has been permitted to pursue its labors uninterruptedly for five months in the capacity of a committee, with the authority of the Society—if, when it presents its report, a resolution is adopted authorizing its publication "as a paper contributed by the subscribing members of the Committee," they are thus placed in a false position by the action of the Society. Suppose as an example the case of the Committee appointed by the stockholders of the Pennsylvania Railroad about a year ago to make an investigation into the affairs and condition of that company. This Committee, after great labor and the expenditure of much time, prepared an elaborate report, setting forth very fully the information they were requested to procure. Now suppose that when that report was presented a resolution had been passed by the stockholders authorizing its publication "as a paper contributed by the subscribing members of the Committee, with this resolution printed at its head," it is probable that the Committee would have considered itself very distinctly admonished, and that in future neither it nor any other committee of that kind would show much zeal if requested to do any similar work.

But, laying aside the policy of those members who carried through the action referred to, let us see how that policy fulfills the objects of the Society of which they form a part. At the meeting in February, the discussion of the Rapid Transit Report was postponed to a meeting in March. Now the Report was not simply a matter relating to some one scheme in which a few people are interested, but it is a subject in which the pecuniary interest of the people of New York is calculated by millions; the prosperity and growth of the city are dwarfed for the want of facilities for rapid transit; the sanitary, social and moral importance of the subject can only be estimated by counting the hundreds or thousands of lives which are now sacrificed annually by reason of the overcrowding of population; and if the misery and wretchedness arising from the same cause could be measured, it would present such a mass of bitterness and woe that none of us would have courage to contemplate it. We do not hesitate in saying that this subject of rapid transit presented to the Society one of the most important engineering problems of the present time. It is no less than the question how the evils which result from the enormous growth and aggregation of population in our large towns and cities shall be counteracted. To quote from a recent book by a writer, the sad news of whose death is only a few days old, "Nobody who has not studied this subject can have an idea of what immense loss is caused by the excessive bigness of these great towns—loss of health, of time, of comfort of material resources of every kind. \* \* \* Everything is rendered more difficult by their enormous size, and by their want of concentration." Certainly few residents of New York need be told that three of the prime necessities of life, fresh air, sunshine and quiet, are now almost unattainable by the vast majority of its inhabitants. It is this problem of obviating by an adaptation of improved means of transportation to large cities the evils which their enormous growth has produced, that is presented to engineers for solution. So little was the overwhelming importance of it realized, that when it was presented by special order to the leading engineering society of America, a portion of the members present manifested their apprehension of it by consuming nearly the whole time of the session in a debate whether the Library Committee had complied strictly with the requirements of the resolution previously adopted, by printing it in the inside of



the cover of the Report, instead of on the opposite page; whether the members were authorized in placing their names at the end of the Report, instead of the beginning; and whether they did or did not use the word "report" when they should have printed "paper" instead. Surely there is something pitiable in this, that an association with such a field of usefulness open to it should waste its opportunities in mere personal bickering. The fact that such things can be indicates that there is something radically wrong in the policy of at least a portion of its membership. It is, we believe, of the utmost importance to the future prosperity of the Society that the error of this policy should be very distinctly understood. For the past two or three years there has been a continual struggle between the Library Committee and a portion of the members who either favored or opposed the acts of the Committee. This contention has become so intolerably wearisome that only a very few members can, under ordinary circumstances, be induced to attend the meetings of the Society. The cause of it, we believe, is due to a mistaken notion of the true objects of the Society, which is in the broadest sense to increase and disseminate information concerning the art and science of the profession to which its members belong. Some of them apparently have the impression that the Society is a trades-union, and their efforts seem to be constantly directed to getting up a "corner" on engineering acknowledged. The policy of copyrighting the proceedings so as to prevent "unauthorized publication" is an illustration of what we mean. Now if the Society contains so little knowledge that it cannot afford to give any away, then its poverty would better be publicly announced so that those who are richly endowed in this respect may be induced to make charitable contributions, or it may come to want and go begging. If such a condition of things did exist, of course there would be no hope for such an association. Societies, like individuals, always feel poor unless they cultivate the habit of giving liberally. The true policy for the leading engineering society of America is, we believe, to give to its proceedings the utmost publicity. Open its meetings to all who choose to attend, and let every newspaper in New York send reporters and publish the proceedings in full, if they choose. Furnish copies of papers for publication to all who want them, and abandon forever the practice of copyrighting and of obstructing in any way the widest dissemination of all the proceedings. To this policy the interrogative objection is urged that if it were adopted, "what advantage would there then be in being a member of the Society?" In reply to this, we will say that if the only advantage offered by membership in the American Society of Civil Engineers is, that engineers thus are admitted inside of a sort of "ring" in which information is communicated somewhat like secret grips and pass words, the fact would better be clearly stated, and some of us will consider whether the privilege is worth the annual dues. If the fact that the printed proceedings can only be procured by becoming a member is urged, then it would be very much wiser and cheaper to subscribe to some foreign engineering journal which is without the jurisdiction of our copy-right laws and which can thus publish the proceedings with impunity, which at present an American paper cannot do.

The truth is, however, that for three or four years nearly all the legitimate work of the Society has been impeded by the internal contention waged to determine whether the proceedings should or should not be printed. This whole evil would be overcome by making the meetings and the proceedings entirely public. Such a policy would also have the advantage that it would hold out greater inducements to members to contribute information in the form of papers or reports. Disguise the fact as we will with fine words, in nine cases out of ten the motive which induces members to prepare papers or do any similar work is the fact that by doing so they will either contribute some knowledge to the profession or the public which will accomplish some good, or else it is the selfish, but not therefore wrong, motive that such contributions will make them better known. Now, under either hypothesis, the fact that a paper or report will be locked up for months probably, that it will at the same time be withheld from publication elsewhere, and that the writer thus loses control over his own productions must, and we know does, prevent many from making such contributions, and it must be confessed that if a person either wants to accomplish a reform or make some of his views known, the American Society of Civil Engineers, instead of offering any advantages, now interposes very serious obstacles in the way of either of these objects, if a paper prepared for such purposes is submitted to it. We also know that members are now deterred from doing such work for the reasons we have stated, and we are obliged to confess there is very little reason for their doing otherwise.

To sum up what we have written, the two measures which are advocated for the Society are: *First, resistance to the policy of suppressing investigations and reports by special committees, and*

*Second, making the proceedings entirely public.*

The Chinese policy of confining the proceedings within a great wall of frigid reserve, or any attempt at establishing a patrician order of engineers, will be disastrous to this or any similar association. Should such a course become the policy of the Society, for the sake of consistency one more step should be taken, and its name changed to that of the American Society of Superfine Engineers, and a rule adopted prohibiting the issue of any of the proceedings excepting under a seal bearing the device of a pair of kid gloves and an extinguisher.

No society ever had a more brilliant career before it than the one we are now criticizing. No country in the world offers such a field for engineering as ours does, and no profession, excepting the one which is practised under the highest of all authority, now has any duties to perform which are at all comparable in the influence which they will exert on the welfare of the human race to those with which engineers are now brought face to face. It is because we realize this and feel very strongly the grand opportunities which are open to the American Society of Civil Engineers that we have ventured to criticize the policy of some of its members in as plain and strong language as we have known how to use.

#### The Illinois Central Report.

So far as receipts are concerned, the Illinois Central proper, that is the roads in Illinois which the company owns, have grown smaller since 1869 and are now less than they were at the close of the war. The business has grown a good deal, but it has been necessary to carry it at lower rates than formerly. In 1869 this property earned \$7,381,000; in 1874, \$6,273,000, and the decrease meanwhile was \$1,108,000, or 15 per cent. The Iowa leased lines, the entire length of which was not in operation till 1869, have made some but not very rapid progress meanwhile. Their gross earnings were about \$186,000, or 13 per cent., greater in 1874 than in 1869, the decrease in total earnings in that time having been about \$876,000, or nearly 10 per cent. less. Still, the net earnings were only about \$18,000 less in the latter than in the former year, and the profit to the company, after deducting rentals and the heavy charter tax (7 per cent. of the gross receipts) were \$2,775,000 last year, against \$2,787,000 in 1869. Thus the history of the road for these six years shows a constant decrease in the working expenses, made in the face of a growing traffic.

We have often referred to the causes which have diverted traffic from the Illinois lines and reduced the company's earnings very much below what might naturally have been expected after the war. The fertile and growing country on its lines which then for the most part depended solely on the Illinois Central for transportation has since been cut up into small sections by new railroads, most of them now unprofitable, it is true, but all of them drawing from the Illinois Central some traffic—in the aggregate a great deal of traffic—which it would otherwise get. Thus the Illinois Central has not profited by the growth of the State so much as most other lines. The decrease in rates has been on the average more rapid than the increase in traffic, and so the receipts have fallen off materially.

Considering the great depression of business, the road must be said to have done well to maintain its traffic so well—a decrease of but 0.8 per cent. in freight and an increase of 5.4 per cent. in passenger traffic—on the whole a slight increase. The downward tendency of freights, however, could not be arrested even when the traffic no longer grew, and receipts per ton and per passenger per mile show since 1873 a decrease of 5 per cent. in the former and 7½ per cent. in the latter.

The company's report gives ample information as to the direction of traffic, and in the case of this road, one of the very few profitable north-and-south lines, this is always interesting material for study. It is especially since the road has recently used its credit so largely, indirectly, to secure a better southern connection. Now the tonnage mileage reported as "southward" in direction exceeded by more than 53 per cent. that northward. It was greater than in 1873, while the northward tonnage was less. Of the whole tonnage mileage, 58½ per cent. moved southward in 1873; in 1874 69½ per cent. The tonnage mileage southward doubtless includes produce from the Iowa Division going to Chicago, which is more properly an eastward traffic, and probably exceeds two to one the traffic westward to and over the same division.

The receipts of freight at Cairo were 7 per cent. greater than in 1873. They were 33 per cent. of the receipts at Chicago in 1874 against about 28 per cent. in 1873, Chicago receipts having fallen off nearly one-eighth. Cairo shipments increased nearly one-half and Chicago shipments one-seventh. The Cairo shipments were 7½ per cent. of Chicago shipments in 1873 and 9½ per cent. of its increased shipments in 1874. These facts show a large increase of the business at Cairo, while traffic generally was nearly stationary, and indicate that the efforts to promote southern trade have been successful. The earnings from the Cairo traffic were more than a third of those from the Chicago traffic, the average haul on each shipment and receipt being doubtless much larger, as Cairo is not a dis-

tributor for the surrounding country to any great extent; but rather a point of transfer for through traffic.

The reduction of working expenses compared with 1873 is nearly one-eighth—just about the same as on the Chicago & Alton and a little less than on the Pennsylvania for the same period. This decrease in expenses is little greater, however, than the decrease in train mileage, 11.9 per cent., which has been effected in spite of an increase rather than a decrease of the traffic, so that a large part of the saving seems to have been due to securing larger average loads for trains.

The great savings in working expenses, as a glance at the summary of the report will show, were in the three items of train expenses, (15.4 per cent.), maintenance of machinery, (21 per cent.), and maintenance of way, (11.6 per cent.), and herein it resembles the reports of other companies recently published.

The general result of the year as compared with 1873 may be summed up as a nearly stationary traffic, a decrease of 4.6 in receipts by reason of lower rates, a decrease of 12.4 per cent. in working expenses, and an increase of nearly 5 per cent. in net earnings.

#### A Chance to Make a Fortune.

The Hennepin Canal, a bill providing for the construction of which Congress has failed to pass, would, we are assured by the advocates of that project, save ten cents a bushel on all the grain shipped eastward from points west of the Mississippi, and on a good deal of that marketed on this side of that stream, while the canal will cost only four millions. Now, the advocates of this canal estimate the quantity of grain whose carriage would be so cheapened at 60,000,000 bushels, and increasing yearly; thus the saving by the canal would be \$6,000,000 yearly. Indeed, a Western newspaper says that the Senate Committee on Transportation and other investigators have proved that the saving each year "would be many millions more than the entire cost of the work."

Now under these circumstances we think we should congratulate the projectors of this canal and other advocates of it that Congress has neglected to make it a Government work. Nothing now prevents them from forming a company, completing and working the canal on their own account, and making enormous profits while giving great relief to the Western grain-growers. For this is no formidable affair counting up into the hundreds of millions, like the projected canals through the Alleghenies, for which, we are told, the national resources alone would suffice. It is a little line, less than a hundred miles long including feeder, and, we are assured, will cost only four millions. Now what a trifle is four millions in works of this kind. In this very State of Illinois just about \$300,000,000 has been expended on railroads, and probably one-third of this amount within the past five or six years—certainly since the war. The cost of the work is no obstacle to its execution by a corporation. A dollar and a half apiece from each of the inhabitants of Illinois would supply the four millions; or, if Illinois is not all interested in it, then a dollar apiece from those people west of and adjoining the Mississippi on the east, whose grain, we are assured, would be carried for ten cents a bushel less than now, would supply the whole sum. And, if the company will prove that their canal can make such a saving, they need not raise more than a quarter of the money by stock: they can borrow the rest in the money markets with the greatest ease—never easier than now—and then their own profits will be very much greater. We will estimate the returns of this promising project, but instead of giving the full figures of the advocates of the canal we will leave a large margin for their possible errors. Instead of 60,000,000 bushels to be carried, we will say 50,000,000; instead of a saving of ten cents a bushel, we will say eight cents.

Now we propose that our company give the farmer three-fourths of the saving in the cost of transportation, or six cents per bushel, reserving for itself but two cents. Then its income from the 50,000,000 bushels of grain will be the modest sum of \$1,000,000. This will be 25 per cent. upon the investment, it is true; but as advocates of Government improvements are usually fond of large profits, and especially as such benefactors of Western farmers would certainly deserve them, we propose that the stockholders, among whom of course we will find all the advocates of the plan who have money enough to buy a share, shall make more than 25 per cent. on their investment. We have said that for a work proved to be able to earn millions of dollars yearly it will be easy to borrow three millions of dollars, or three-fourths of the cost of the work. But with our disposition to avoid all possible errors, we will leave but half the cost to be raised by the sale of bonds, or two millions. Of course a company with an assured net income of a million a year can borrow two millions on its property at the lowest rate of interest, certainly at 6 per cent. But we will be liberal with the bondholders (if they have invested in new Western railroad bonds they deserve to be liberally treated), and will allow them 8 per cent. On second thoughts we will make it 10 per cent. (and



what a struggle for them there will be! Now at this rate our company's bondholders will require \$200,000 a year, and there will be \$800,000 to divide on the \$2,000,000 of stock. This will enable the gentlemen forming our company to collect dividends of 40 per cent. yearly, and that rate, we think, ought to satisfy them quite as well as to have the Government make the canal and give them none of the profits except such as they might happen to make on contracts. Of course, with the stock promising such a return, or one-half as large, every share would be taken up at once. Yet our figures are great reductions on those made by the advocates of the canal before Congress; by theirs, the total profit would be a million and a half instead of a million, and the certain rate of dividend on \$2,000,000 of stock 65 per cent. instead of 40. But we think that our figures are enough to prove that if these people believe what they say they will lose no time in forming a company and executing the work. At our limited figures they would, as they say they have proved, effect the following results:

1. A saving of six cents a bushel on the grain shipped, amounting to \$3,000,000, which would go into the pockets of the farmer.

2. A return of 10 per cent. on \$2,000,000 of bonds on the canal.

3. An income of 40 per cent. on \$2,000,000 of canal stock.

To which it may be added that they would probably say that a permanent reduction of six cents per bushel in the cost of carrying Iowa grain is equivalent to an increase of seven or eight dollars an acre in the value of Iowa land, which would give for that one State a further benefit of \$225,000,000 or more; but this would be a fallacy, and these figures are getting too big for us.

Now we can understand why there should be some delay in the organization of such a company and the collection of its capital in the Northwest and among the people who have been active in urging the construction of this work, since money is not very plenty among them; but it seems strange that Eastern capitalists, who with difficulty find safe investments for their money yielding 7 per cent. or more, should not take hold of the enterprise. It cannot be for want of knowledge of the country and its traffic, for they have built and now own most of the existing transportation routes there, besides having access to all the statistics which have been presented to Congress; it cannot be for fear of injuring railroad properties, for they have spent scores of millions which had just this effect and were expected to have. We conclude that there are these two horns to the dilemma: Either the advocates of the Hennepin Canal do not tell the truth, or else capitalists are idiots.

#### The Report of the Wisconsin Railroad Commissioners.

The duties of the railroad commissioners of different States are quite various. Some of them have scarcely any authority, and are hardly required to do anything; others have authority to require reports and to hear and report on complaints, but nothing further, being intended primarily to collect and make clear the facts concerning railroad business, and to enable the legislature and the people to proceed intelligently in any action affecting them; and of late years in some of the Western States commissioners have been made legislators, judges, jury and executioners, as it were, having authority to say what the railroad companies shall do, and to take measures to enforce their obedience. To this latter class the Wisconsin Commission belongs in theory; but it has had scarcely any occasion to exercise its authority in making rates for the railroads, from the fact that the Legislature had already subjected the companies to laws which threatened their existence, and gave the Commissioners authority only to make the laws harsher, which authority they have not seen fit to exercise. All the Commissions, however, save one or two in New England, are expected or authorized to collect information concerning the railroads of their several States—a most important work, quite indispensable to any understanding of questions affecting transportation, and especially necessary to any intelligent legislation or abstention from legislation. This work is done very differently in different States, some of the reports being excellent, and some so crude and imperfect and inaccurate as to be worth almost nothing. So far as the collection of these statistics is concerned, indeed, it can hardly be well done without some years of experience and the careful supervision of an intelligent mind all the time. We may be sure then that we can never have good statistical reports from a constantly changing commission, unless, indeed, it has a permanent secretary or statistician who is familiar with the history of the office and has good qualifications for work of the kind. It is quite as true, doubtless, that the other work of such commissions, where it has any other, requires ability and long-continued study also, but we speak here only of the point which most of the commissions have in common, and which must furnish them all with the material which alone will enable them to pass judgment on railroad affairs in their respective States.

As the Wisconsin Commission came into existence less than nine months before making this its first report, we cannot look to it for those virtues which come from long experience. The wonder is, rather, that it has been able to collect material enough to fill these 650 pages.

However, the great bulk of the volume is chiefly in official papers of the Commission, including a large correspondence,

and executive and legal documents and records which go to show the history of Wisconsin companies. The report proper—the expression of the Commissioners' studies and opinions—covers 139 pages. The tabulated statistics of the roads are for the calendar year 1873 and cover 22 pages, but there is a large amount of other statistics chiefly illustrative of the history of the roads, and especially desirable in a first report. The statistics for the year are rather meagre. Included in the other tables are such statements as the highest and lowest prices of the stock and bonds of the Milwaukee & St. Paul from 1861 and of the Chicago & Northwestern from 1863 for every month of every year.

Altogether, the collection of material indicates much industry and intelligence, though there are too many statistics, especially concerning foreign railroads, for which no date or authority is given, as they certainly should be for all statistics not original with the Commission. Apparently the reports of British Parliamentary committees and commissions have been depended upon when figures for a date some years later would have been better.

The report proper is divided into two parts, the first a "Report of Duties Performed;" the second a "Discussion of Principles and Statistics." Among the duties imposed was that of ascertaining the actual cost and the profits of the railroads of the State. The Commissioners very soon found that there were only two companies which had come near earning an adequate income on their cost, and to an investigation of the cost and earnings of these the greater portion of the first part of the report is devoted. The report of the Chicago, Milwaukee & St. Paul Company showed its net earnings to have been 4.67 per cent. on the cost of the property as it reports it, and after paying interest on its bonds the balance was equivalent to 2.21 per cent. on its stock. The Commissioners believe that a considerable amount charged to working expenses was actually expended for new construction, and that the income on that part of the property in Wisconsin was much larger than the average income (as it doubtless was) and report that the Wisconsin earnings proper were sufficient to pay 7 per cent. on the stock as well as on the bonds representing the property in Wisconsin. With regard to the Chicago & Northwestern, they are not able to conclude what the net earnings of its Wisconsin lines were, but think they were above the average of the company's lines, apparently, which is more than doubtful, as much of its most unprofitable road is in Wisconsin, and some of that the costliest perhaps in the West, while its most profitable lines are in Illinois.

The Commissioners say: "Your Commissioners are not yet completely furnished with the requisite data for determining whether the maximum rates fixed by the law are or are not in some cases lower than the companies can adopt with a reasonable expectation of earning under them a fair profit on the legitimate cost of their roads. On the one hand, we are not prepared to allow that the rates are ruinous, as is claimed by the railroad companies; and on the other hand it is undeniable that these rates are considerably lower than are at present charged by a great majority of the railroads of the country." This latter statement they support by a comparison of the rates of the Potter law with those of fourteen railroads, including Western, New England and trunk lines.

The "General Investigations" which form the second part of the report cover a great deal of ground in the examination of the question of the relations of railroads to the community and the methods which have been proposed and tried to control them, the Commissioners deciding that competition and self-interest are insufficient reliances. A great deal of space is given to a discussion of causes which unnecessarily increase the cost of railroads and the expense of working them. A sketch of "attempts to solve the railway problem" in Europe and America covers about 20 pages, when the Commissioners discuss the "errors of past legislation." Of their own law, the "Potter law," they say that, though it is praiseworthy as based on the principle of general legislation and fixing maximum instead of specific rates, yet it has the faults that it bears heavily on the new roads, is not sufficiently elastic, takes no account of short distances, fixes maximum rates for car-loads only, treats connecting lines as continuous but is silent as to division of earnings between them, imposes duties which it is impossible to accomplish, and provides inadequately for its own enforcement. They give then a chapter on "Remedial Measures," in which they say that though State supervision is not yet fully tested in this country, it is best for Wisconsin. They suggest that the railroads of the State be appraised by the Commissioners, their effort being to ascertain the actual cost in cash of reproducing the roads at the time of appraisal.

The report closes with the following "summary of conclusions":

"Having thus completed as full and careful a survey as possible of the whole field of inquiry, your Commissioners present the following summary of the more important conclusions they have formed:

"The only form of railway control likely to prove successful under present conditions is the legislative, supplemented by direct supervision; the legislature laying down general rules of action, but leaving the application and enforcement of these rules to a commission. A judicious application of this method requires:

"1. A determination, by the Commissioners, of the actual cash value of each railroad, such value not to be greater than the actual cost thereof, and the valuation subject to legislative revision.

"2. An annual determination of the gross and net earnings of each company, from the reports of companies, by actual inspection of books and affairs, and by all other practicable methods.

"3. A division of roads into two classes: the first class including all roads paying a reasonable compensation on valuation, and the second class including all other roads.

"4. A maximum of rates of fare and freight for roads ascertained to belong to the first class, such maximum being subject to legislative revision.

"5. No restriction of earnings upon roads of second class, except by way of remedying unjust discriminations.

"6. A prohibition of unjust discriminations and unreasonable or excessive rates on all roads; any person complaining

of discrimination or extortionate charges having the right of appeal to the Board of Commissioners, under such rules as to evidence of facts as the Commissioners may determine; the Board determining the fact of discrimination on evidence and notice to both sides, and its conclusions to be *prima facie* evidence as to fact of discrimination, or of unreasonable charges.

"7. Additional police regulations, especially as to running connections and the passage of freight from one road to another.

"8. Limited power of the Commissioners to require repair of roads, improvement of roads or rolling stock, and increased accommodations for passenger travel.

"9. Full and complete publicity of rates of fare and freight.

"10. Publicity of all important contracts and agreements between railway companies, and of their business transactions generally.

"11. Greater uniformity and completeness of accounts, as well as greater fullness and frequency of reports.

"12. Adequate penalties for the falsification or concealment of earnings or expenditures, or other facts.

"13. Efficient means for the prompt enforcement of all provisions of the law, at the expense of the State."

It was of course impossible that a question like this could be settled after a few months of study by three gentlemen, however able, previously unfamiliar with the business of transportation, and there are many points in the report which are open to criticism, and especially in its concluding recommendations, many of which, however, are extremely good. The Commission, however, evidently is not one of those which believes that facts are immaterial to a just settlement of the question, but has taken a great deal of pains to inform itself, and considering the short time at its disposal, with a good degree of success. They seem to us, however, to have learned too little about the Wisconsin railroads, with which they have to deal, and whose circumstances determine what rates it is right for them to charge, without any reference to rates which may be profitable on railroads elsewhere. And in their studies of foreign railroads, an extremely interesting and important study, by the way, like most Americans they depend too much on British State papers, now several years old, and inadequately representing the state of things at this day. English railroad literature, outside of railroad engineering, is very barren; but on the Continent there are scores and hundreds of publications, with new ones constantly appearing, which give the latest thought and the latest results of experience in railroad affairs of all kinds, and it is to these original and modern sources rather than to the studies of older ones by the officers of the British Board of Trade, that American students should resort. We cannot depend upon England to keep us informed concerning Continental railroad studies. The English seem to pay no attention to them, and are really less interested in them than we are.

The Wisconsin Commissioners also neglect or are mistaken concerning some of the essential principles which govern the establishment of railroads and the conduct of their business, as we think it would be easy to show; but this was naturally to be expected, and the good qualities of their report are certainly more surprising than its errors or omissions.

#### The Minnesota Railroads.

The Minnesota Railroad Commissioners report that at the end of June, 1873, there was 1,893 miles of railroad in the State, since which time the 40 miles of the Wells & Mankato line has been completed, making one mile of railroad to 43.45 square miles of territory. These roads have a capital stock of \$31,740,060, a funded debt of \$86,344,154, and a floating debt of \$6,255,025. The stock is at the rate of \$16,767 per mile, the funded debt \$32,904, and the floating debt \$3,235 per mile. The gross earnings of all roads reporting were \$6,194,669, which is about 5½ per cent. on the stock and bonds. It is an increase of 12 per cent. on the earnings reported for the previous year. The working expenses were 69 per cent. and the net earnings \$1,894,800. Per mile the gross earnings were \$3,272, the working expenses \$2,271, and the net earnings \$1,001. Subtracting taxes this is reduced to \$928 per mile, which is less than 2 per cent. on the stock and bonds, and less than 3 per cent. on the bonds alone. The interest on debt actually paid amounted to \$1,966,331, or \$245,171 more than the total net earnings, and only about one-third of the interest due was paid. The Commissioners had to determine schedules of "reasonable maximum rates" for all the railroads at the beginning of their term last spring, but in exercising this duty they say they "found that they could not be guided by any rule of remunerative interest or dividend on the legitimate cost of roads, and the expense of maintenance and operating them, for the reason that the tariffs established by the companies themselves, except the River Division of the Milwaukee and St. Paul Company, have not produced revenues that were at all remunerative." In spite of this, however, they say that they made reductions which they estimate to have reduced the receipts of the roads about \$300,000 during the year; indeed, they say: "We are confident that is this below, rather than above the result." They find that the provision of the law forbidding a greater charge over a given distance of a road than over the same distance elsewhere to be "unequal and objectionable" in certain cases, and that the railroads ought to be able to reduce their rates during the season of navigation to meet the competition of the Mississippi and other river steamboats. They say "If the railroads along these rivers must maintain an unvarying rate that will be remunerative on all parts of their line, they are precluded from competing for freight during the season of high water and cheap river freight; the absence of this competition from the railroads would tend to higher river rates. The railroads can often carry return freights, rather than have cars go empty, at rates that, if uniformly maintained, would be very inadequate." If the report fixes these facts in the minds of the Legislature and people of Minnesota, the Commissioners have not lived in vain. The Commissioners recommended such a modification of legislation as should make it possible to adjust rates to the varying circumstances affecting transportation.



The result of their recommendation seems to have been their own annihilation as a Commission, and the repeal of the law of a year ago, leaving one Commissioner with advisory powers. The statistics are presented in the last report just as they were before by the sole Commissioner, and are very valuable, though imperfect. From the beginning they have proved sufficiently that the Minnesota railroads could not be overcharging, for they have never yet earned the interest on their bonds.

### Ohio Railroads.

The eighth annual report of the Commissioner of Railroads and Telegraphs of Ohio, including returns from the railroads of the State for the year ending June 30, 1874, shows a length of main lines and branches in the State at the close of the year of 4,374.44 miles, an increase of 211.47 miles during the year, against 376.35 miles the previous year. This mileage has 1,141.52 miles of second track and sidings, which is 97.34 more than the previous year. The cost of the road in the State is reported as \$268,684,952, which is at the rate of \$61,422 per mile. The stock and funded and floating debts of these roads is greater by 10½ per cent. than the reported cost, or \$67,782 per mile. Of the whole amount \$150,547,397 is stock, \$136,836,555 funded debt, and \$15,598,811 floating debt. The latter, which should not properly cover cost of construction and may be balanced by assets other than railroads and their equipment, is at the rate of nearly \$3,300 per mile.

During the year the roads carried 16,487,294 passengers—10½ per cent. more than the preceding year—and 26,199,485 tons of freight, which is 1½ per cent. less. The passenger mileage (the Marietta, Cleveland & Pittsburgh and the Painesville & Youngstown not reporting) was 621,887,641, giving an average journey of 41.55, for which the average receipt was 2.672 cents per mile. Of the total tonnage, 30.56 per cent. (and doubtless a very much larger proportion of the tonnage mileage) was through. On 31 of the 34 lines the tonnage mileage is reported, amounting to 3,717,622,979, and the average receipt per ton per mile is given as 1.332 cents—lower than for the whole railroad system of any other State in America, we presume. The proportion of earnings of the railroads for Ohio was \$37,177,130, which is \$998,202, or 2½ per cent. less than was earned in 1872-73 on 211 miles less of road. The working expenses were \$27,063,274, which is \$238,610 less than the previous year; and the net earnings were \$10,113,856, or 7 per cent. less, and less than 4 per cent. on the cost of the roads.

The following little table, which we compile from the report, will render a comparison easy for the two years. In it all the figures, except in the last two lines, are for one mile of railroad:

	1873-74.	1872-73.	P. c. of Inc. or Dec.
Capital Stock.....	\$34,416	\$33,637	Inc. 2.32
Funded debt.....	31,282	31,608	Dec. 1.08
Floating debt.....	3,665	2,324	Inc. 58.40
Cost of road and equipment.....	62,393	62,070	Inc. 0.50
Earnings.....	8,499	9,170	Dec. 7.32
Working expenses.....	6,187	6,558	Dec. 5.66
Net earnings.....	2,312	2,612	Dec. 11.48
Persons employed.....	6.33	7.07	Dec. 10.50
Percentage of net earnings on cost.....	3.705	4.208	Dec. 11.95
Mileage.....	4,374	4,163	Inc. 5.07

Here with an increase of ½ per cent. in the cost of roads per mile, there is a decrease of 7½ per cent. in their receipts, of 11½ per cent. in their net earnings and of 12 per cent. in the income on the investment.

### Record of New Railroad Construction.

This number of the *Railroad Gazette* has information of the laying of track on new railroads, as follows:

*Chicago & Pacific*.—Extended westward nine miles to Killbuck, Ogle County, Ill., 77 miles from Chicago.

THE INTERNATIONAL RAILROAD COMPANY, which has been endeavoring ever since the construction of its road to secure from the State of Texas the subsidy which the Government had contracted to pay it, at last has obtained a settlement which, though doubtless less advantageous immediately than the subsidy in State bonds which was promised it, yet gives it a valuable consideration, and relieves the apprehension that it might get nothing. On Monday, the 8th inst., a bill which had been drawn up with the concurrence of the Governor, and so is sure to receive his approval, passed both houses of the Legislature almost unanimously—the Senate by a vote of 21 to 5, the House by 70 to 8. This bill exempts the company's railroad from taxation for twenty-five years—no slight advantage—and gives it as a subsidy twenty sections of the State lands per mile—12,800 acres. Texas, as some of our readers may not know, and not the United States owns the wild lands within its borders. Of course the value of the lands depends largely on their situation, but generally we may say that there are no worthless lands in Texas except in its northwestern part, and that generally the lands are fertile, while the State is growing as fast as almost any in the West, and very much faster than any other Southern State.

The International Company, we understand, will now proceed to extend its road from its present terminus at Rockdale to Austin, a distance of 62 miles, which will put it in much better shape to obtain traffic and leave but about a hundred miles to complete it to the cattle center at San Antonio and 225 miles to the Rio Grande.

ANOTHER HEAVY SNOW STORM, beginning March 3, made bad work for the railroads through Indiana, Illinois, Michigan and as far west as Minnesota. Yet another came March 7, this last being felt more to the East and South, the railroads of New York and New England being the worst sufferers. It was not wholly confined to the East, however, for heavy snow was reported from St. Louis, and as far south as Memphis there was 18 inches of snow, and reports came of blockaded trains, a very rare occurrence in that region. The frequent interruptions to travel and the long list of accidents caused by its

many and heavy storms and intense cold will make the winter just passing away one of anything but pleasant memory to most railroad companies, the more so as its heavy expenses have had in most cases the equally unwelcome accompaniment of exceedingly light earnings.

THE NEW WISCONSIN RAILROAD LAW is a slight modification of the "Potter law," and the changes are chiefly in permitting slightly higher charges on the lower classes of freights. The General Manager of the Chicago, Milwaukee & St. Paul is reported as saying that it will enable his company to earn about \$50,000 per year more than under the present law; for which, we suppose, it ought to be thankful as things are in Wisconsin, but \$50,000 won't go far among 227,000 shares of stock.

### NEW PUBLICATIONS.

*The Bankers' Almanac and Register*.—This work, as many of our readers may not know, is one of the established publications in this country, and deemed an authority in its sphere. The volume for 1875 is the twenty-fourth annual issue. Of course the almanac is a very small part of the volume, which is a neat octavo of about 300 pages, exclusive of advertisements. The chief feature of the work is its list of banks and bankers. It gives the locality, name, name of President, name of Cashier, amount of capital and name of New York correspondent for all banks—national, state and private—in the United States for December of 1874; a list of Canadian banks and private banking firms, an alphabetical list of cashiers and assistant cashiers for January of the current year, a list of New York city brokers; one of savings banks, one of banks and bankers in London and other cities of Great Britain where our Government is represented, and a list for the chief cities and towns of the rest of the world. It has also a review of the business of the New York Stock Exchange for the year, and a list of railroads in default, and a great amount of other matter of similar nature, useful to all who have much financial business to transact. The work is published in New York by I. S. Homans.

### General Railroad News.

#### OLD AND NEW ROADS.

Continued from Page 103.

#### Southwestern & Rio Grande.

This company has brought suit for a writ of *mandamus* to compel the City of Shreveport, La., to raise by tax the \$300,000 voted in aid of the road last spring. The city authorities have refused to do this, alleging irregularities in the ordering and conduct of the election as their reason.

#### Alabama & Chattahoochee.

The foreclosure sale has been again postponed, this time from March 8 to April 5. The postponement is made to give time for the completion of the negotiation between the bondholders and the State of Alabama for a settlement of the existing differences.

#### Marquette & Mackinaw.

The Michigan Legislature has passed a new bill giving a grant from the State swamp lands to aid in the building of a railroad on the Upper Peninsula from Marquette to the Straits of Mackinaw. The former grant had lapsed, no company having taken advantage of it.

#### Gulf, Colorado & Santa Fe.

A proposition has been made to the various incorporated companies (wharf, insurance, banking, etc.) of Galveston, to take stock in this company, and a number of them have already voted to do so. The amount thus secured will, it is thought, be enough to complete the road on the new survey from Galveston west 43 miles to the crossing of the Old Houston Pass & Brazoria road. Work must be begun soon, as the charter requires the company to have 30 miles completed by November 1, 1875.

#### Pacific Mail.

The Jay Gould party having secured a controlling interest in the stock, a number of the old directors have resigned and their places have been filled by representatives of the Union Pacific and Panama interests. A seat at the board was offered to Gen. D. D. Colton, as representative of the Central Pacific, but he declined. The management will, it is understood, be hereafter in harmony with that of the Union Pacific on all essential points. An immediate result of the change is a large increase in rates to San Francisco.

#### Chicago, Milwaukee & St. Paul.

The La Crosse (Wis.) *Republican* is informed that the board of engineers which recently inspected the location chosen by this company for its bridge over the Mississippi a little way above La Crosse has made its report to the Secretary of War. The report, it says, declares that a bridge can be built there without impediment to navigation, provided certain necessary works for the protection of the channel are built. These works include a large amount of rip-rap, diking and other expensive undertakings.

#### Savannah & Charleston.

In the Charleston Court of Common Pleas, March 5, a motion was made for an order to the Receiver to show cause why the Comptroller General of South Carolina should not take possession of the road. After argument the case was postponed to March 25.

#### Griffin, Monticello & Madison.

The sale of this unfinished road has been postponed for 60 days, or to May 1.

#### Nashville, Chattanooga & St. Louis.

President Cole of this company telegraphs that the damage to the road by floods is very much less than at first reported. No bridges were lost and only two unimportant trestles. The principal trouble was caused by back-water lying over the track, preventing trains from running.

#### The Railroad War.

The contest between the Baltimore & Ohio and the Pennsylvania companies has continued with the usual beating down of rates, the lowest figure reached as we write being \$8 for passengers and 20 cents per 100 pounds for freight between Baltimore and Chicago. There is this difference in the rates of the two companies, however, that the Pennsylvania low-rate tickets are made good only for 48 hours, while the Baltimore & Ohio are of the usual form, good until used, and are consequently bought up by speculators in large quantities.

The feature of the week has been the intervention of President Jewett of the Erie, who offered his assistance in adjust-

ing the controversy. President Garret declined negotiating unless the line to New York was first opened to his trains. Mr. Jewett replied, suggesting a reference of the whole trouble to arbitration, but Mr. Garret closed the correspondence by saying that the Baltimore & Ohio could not submit its policy or business to the judgment of third parties, and that the Pennsylvania must give way as a preliminary to any negotiation.

#### Rockford, Rock Island & St. Louis.

In the United States Circuit Court in Chicago the company has withdrawn its answer to the complaint in the foreclosure suit, and filed a new answer, consenting to a new decree. The complainants have withdrawn so much of the complaint as charges fraud on the part of Messrs. Cable and Lynde. In accordance with this compromise the Court made an order March 6 directing a decree of foreclosure to be entered.

#### Western Railroad Bureau.

It is reported that the Commissioners met in Chicago, March 6, and after discussing the situation, agreed to adjourn *sine die*, thus practically disbanding the Bureau.

#### Meetings.

The following companies will hold their annual meetings at the times and places given:

- Columbus & Hocking Valley at the company's office in Columbus, O., April 13, at 10 a. m.
- Maine Central, in Portland, Me., March 31.
- Pennsylvania, annual election of directors at the company's offices in Philadelphia, March 13.
- Pittsburgh, Fort Wayne & Chicago, at the company's office in Pittsburgh, Pa., March 17, at 12 noon.
- South Carolina, in Charleston, S. C., April 13.

#### Dividends.

Dividends have been declared by the following companies:

- Catawissa, 62½ cents per share on the second preferred stock, payable March 12.
- Lehigh Coal & Navigation, \$1 per share, payable on demand.
- Railroad Car Trust of Philadelphia, 5 per cent., semi-annual, payable March 1.
- New York Central & Hudson River, 2 per cent., quarterly, payable April 15.

#### St. Paul & Pacific.

The bill providing for the forfeiture to the State of Minnesota of the St. Vincent Extension and Brainerd Branch and the land grants belonging thereto, has been indefinitely postponed and probably killed in the Legislature.

#### Grand Trunk.

The buildings at Point St. Charles, Montreal, including a frame shop 400 by 100 feet, a brick shop and the freight-car repair shed, took fire on the morning of March 9 and were destroyed. The loss is estimated at \$139,000, on which there is about \$60,000 insurance. The general offices were in one of the burned buildings.

#### The Wisconsin Railroad Law.

Both houses of the Wisconsin Legislature have passed a bill which amends the Potter law by allowing an increase of rates on some classes of freight. The passenger rates remain as before and no change is made for distances less than 50 miles. The amended law is regarded, it is understood, by the railroads as only a slight improvement.

#### The International and the Texas Aid Bonds.

The bill providing for an adjustment of the controversy between the State of Texas and the International Company by the issue of \$3,000,000 bonds, after passing the Legislature, was vetoed by the Governor. There being no hope of passing it over the veto, a compromise measure was agreed upon and passed, which the Governor will sign. This provides for a grant of 12,800 acres of land per mile and exemption from all taxation for 25 years, in lieu of all subsidy in money or bonds.

#### Illinois Central.

For the month of February the Land Department reports sales of 3,650.85 acres of land for \$27,339.96, and cash collections on land contracts amounting to \$28,785.33.

The Traffic Department report for the month is as follows:

	1875.	1874.
In Illinois, 707 miles.....	\$386,738 00	\$422,837 47
In Iowa.....	71,419 45	94,836 45
Total, 1,109 miles.....	\$458,158 05	\$517,673 92

This is an increase of 8½ per cent. in the Illinois earnings, of 23½ per cent. in the Iowa earnings, and of 11½ per cent. in the total. The traffic was much impeded by snow and storm during the month.

#### Union Pacific.

President Dillon, Superintendent Clarke and the directors have been arrested on indictments found in the United States District Court for Iowa, for failing to comply with the law and operate the road as a continuous line to its eastern terminus in Iowa. The accused have given bail, and will be tried at Council Bluffs, March 22.

At the annual meeting, March 10, the stockholders voted to approve the proposal made by the President to pay the Government a fixed annual sum in lieu of all its claims upon the company and authorized the directors to carry out and complete such an agreement.

#### Lake Shore & Michigan Southern.

This company, after watching for some time the contest for passenger business between Buffalo and Detroit which has been carried on by the Great Western and Grand Trunk, has joined in and reduced the passenger rate from Buffalo to Toledo from \$8.25 to \$3.25, which is \$1 lower than the Canada roads charge. No reduction is made in through rates, but the local is much lower than the through rate and practically reduces the latter.

#### Chicago, Danville & Vincennes.

Wm. A. Fosdick and James D. Fish, trustees, have filed a bill in the United States Circuit Court in Chicago, for the foreclosure of the first mortgage on the road.

Argument on the demurrer against the appointment of the receivers was heard at Joliet, Ill., March 2, and the hearing lasted three days. The Court took the case under advisement and will give a decision about April 1. Meantime the receivers remain in possession.

The foreclosure suit brought by the trustees is intended to take the road out of the hands of the present receivers and put it in possession of parties more friendly to the old management.

#### The New Minnesota Railroad Law.

The following is a summary of the new Minnesota railroad law, which has passed both houses of the Legislature by large majorities and is probably now in force:

1. The appointment of one Railroad Commissioner, who shall serve for two years, and whose duty it shall be to make inquiry as to the management of railroads, especially as to the negligence and violations of law by officers, agents and employees, the condition of their roadways and equipment, and their pecuniary condition and financial management; to report on the 1st of each December his action for the preceding year, with facts, statements and explanations showing the operation of the railroad transportation of the State in relation to the general business and prosperity of the people, with recommendations relative thereto; also showing the amount of capita-



stock, preferred stock, funded debt and rate of interest paid on the same, floating debt, cost of equipment and other railroad property, the estimated value of all property, number of acres of lands granted by the United States and the number remaining unsold, a list of the directors and other officers, with their places of residence, with such other facts and statistics as to him shall seem important to be known by the public.

2. That the Commissioner shall have power, in the performance of his duties, to examine under oath or otherwise any officer, agent or employee of any railroad company, and to inspect the books and papers of any company, and to enforce the attendance of witnesses and the production of books and papers by subpoena.

3. That the companies shall make returns annually to the Commissioner, in such form as he shall prescribe, of facts as to which it is the duty of the commission to make inquiry.

4. That no company shall charge, demand, or receive from any person, etc., for transporting persons or property, a greater sum than it shall at the same time charge, demand, or receive from another person, etc., for like service from the same place, and upon like conditions and circumstances. All concessions of rates, drawbacks, and contracts for special rates shall be open to all persons, etc., alike, under similar circumstances.

5. That no company shall charge an unreasonable price for the transporting of persons or property, for handling or storing freight, for the use of cars, or any privilege or service offered in the transaction of its railroad business.

6. That it shall be the duty of any company, when within their power, upon reasonable notice, to furnish suitable cars to all persons applying for the transportation of the usual kinds of freight, to receive and transport such freight with reasonable dispatch, and to provide and keep suitable facilities for handling and receiving it at any depot.

7. That any company violating any provision of the act, as to extortion or unjust discriminations, shall forfeit for every offense, to the party aggrieved, three times the actual damages sustained or overcharges paid, with costs of suit, recoverable in civil action.

8. That in all cases arising under the act, the rules of evidence and practice shall be the same as in other civil actions, and appeals may be granted either party in the same manner and upon the same terms.

#### Pennsylvania.

At the annual meeting in Philadelphia, March 9, the Investigating Committee submitted the resolutions reported last October instructing the management that the policy of the company hereafter shall be in its relations to other companies now controlled by it to lease the roads or consolidate, thus releasing the company from the necessity of holding large amounts of securities; that the directors are instructed rigidly to observe the provisions of the consolidated mortgage, by appropriating the proceeds of the sale of such securities as are available to payment for betterments; that the directors shall sell such securities as are not required to pay for improvements and use the proceeds in buying in bonds of the company. This policy will render unnecessary any further issue of bonds without the formal approval of the stockholders, except the \$25,000,000 whose sale is already arranged for and the bonds appropriated to pay off existing bonds as they mature.

In regard to the disposition of these resolutions, the stockholders adopted a resolution referring them to the incoming board of directors "with instructions to carry out such of the said resolutions in whole or in part as in their judgment shall be for the best interest of the stockholders," which is equivalent to telling the directors to do as they please about them.

The directors were also recommended to secure absolute and exclusive control of the Pennsylvania Company (which they have done since the report was made in October.)

A resolution was offered providing for quarterly instead of semi-annual dividends. It was referred to the board.

#### The Hoosac Tunnel Line.

The Springfield Republican of March 5 says: "The last work involving special danger upon the Hoosac Mountain, namely, the clearing of the central shaft, was brought to a successful issue Tuesday night, and the 45 picked workmen who have been employed upon it, with Engineer E. A. Bond, are congratulating themselves that no accident has marred its progress. The work has been under the charge of Mr. Bond, the assistant of Carl O. Wederkinch in sinking the shaft, who alone has planned and conducted its re-opening. The shaft, it will be remembered, is 1,080 feet deep, and in excavating it floors were put in once in 18 feet, and these floors, with their heavy supporting timbers, have now been taken out, one by one, from the bottom up. To enable the miners to cut away these timbers, a movable platform, as has been already described, was constructed to fill the shaft, being suspended from the top by a wire-rope cable and secured by several independent fastenings, each capable of supporting the platform, thus rendering it doubly secure. In place of the cage was introduced one of the old buckets used in digging the shaft to bring up the stone, to remove the debris and dislodged rock. And so, carefully, a step of 18 feet at a time have the shippy, treacherous timbers been lifted out; together with 112 yards of loose stone, near the top of the shaft, some of these last hanging pieces weighing five or six tons, and all without any blasting. Brick-work was put in to secure a soft vein of rock near the top, the platform was lifted out Tuesday morning, and yesterday the shaft was one clear, deep hole, without timber or rock that can ever fall into the tunnel. Certainly, the successful conduct of so delicate an undertaking is worthy of mention and commendation."

The lower house of the Massachusetts Legislature has substituted for the committee bill another providing for the management of the Tunnel entirely on the "toll-gate" system. The State is to hold the tunnel open to all comers, allowing any road to make connections with it and run its trains through it on the payment of fixed tolls.

#### New York & Oswego Midland.

A new plan of reorganization is proposed by Mr. N. A. Cowdrey and other bondholders, and the assent of bondholders is asked thereto. The plan provides for the sale of the road under foreclosure and the organization of a new company, which shall issue \$6,000,000 first-mortgage bonds, \$6,000,000 first preferred stock, \$5,000,000 second preferred stock and \$20,000,000 common stock.

Of the \$6,000,000 bonds, \$1,500,000 to be used for paying the receiver's certificates, \$500,000 for putting the road in good condition, and the remaining \$4,000,000 to be issued to holders of the present first-mortgage bonds, being 50 per cent. of their face. Holders of those bonds to receive \$4,000,000 first preferred stock for the balance of the face of their bonds and \$2,000,000 of the same stock for their overdue coupons.

The second preferred stock to be issued in exchange for the \$5,000,000 present second-mortgage bonds. Common stock to be issued for the Western Extension, consolidated and equipment bonds, floating debt and present stock, leaving \$1,575,000 out of the \$20,000,000 in possession of the company. Holders of common stock to have no votes until dividends have been paid on the preferred stock.

First-mortgage bondholders joining will have the right to modify the plan and arrange the details. No securities to be issued to parties not joining in the reorganization.

If a majority of the first-mortgage bondholders sign the agreement by April 1, an attempt will be made to carry out the same under the direction of a committee to be appointed by the assenting bondholders.

In the injunction cases against the tax collectors along the line the United States Circuit Court has decided that the repeal of the tax exemption granted the company was constitutional. Several of the injunctions are, however, continued on other grounds, chiefly to give the Court time to examine into the manner of assessing the taxes.

The order of the receivers for the abandonment of the road directs that all the equipment be brought to certain points where it will be stored and where it can be watched and taken care of. Station agents are instructed to pack all the movable property about their stations and have it ready to load up on a special train which will be sent over the road for that purpose.

The Utica Herald is informed that arrangements have been made by which the Delaware & Hudson Canal Company will operate the Utica, Clinton & Binghamton and the Rome & Clinton roads (leased by the Midland) and will run its trains over that section of the main line, from Smith's Valley to Sidney Plains, which connects those roads with the Albany & Susquehanna. The Delaware & Hudson Company guaranteed the leases of those roads to the Midland.

#### New Jersey Midland.

In reply to the complaint made on the application for a receiver, the company puts in a general denial of all charges of mismanagement and fraud; states that the floating debt is only about \$400,000, exclusive of overdue coupons; that the sum due employees is only \$4,000 more than in April last and is not over \$49,000 in all; that instead of deriving benefit, the directors have advanced \$75,000 and have become liable for large sums as endorers; that no new stock has been issued, a proposition to that effect having been declared illegal; that payments made to floating-debt creditors were made to prevent the sacrifice of securities hypothecated; that the company is paying a large sum each month as rent of equipment; lastly that the complainants in the suit asked lately to have control of the board of directors given them and were refused.

A communication in the Paterson Press—from a director of the company, we believe—contains a specific denial of the alleged mismanagement and corruption and charges that the present suit is an attempt to get control of the road on the part of certain bondholders of the New York & Oswego Midland, who own only a very small amount of New Jersey Midland bonds.

Probably a foreclosure and reorganization on a reasonable basis would be the best thing for the road. The bonded debt is extravagantly large, mainly owing to the low prices at which many of the bonds were sold. It is now over \$60,000 per mile, and the expenditures needed to put the road in good condition and to utilize the terminal property on the Hudson River would bring this up to over \$70,000 per mile. To pay interest on this would require gross earnings of at least \$15,000 per mile, which the road is not likely to have for many years to come, if ever. If the road were put in good condition, with careful management it might be able to pay interest on a moderate debt, but it can never carry its present load.

The directors have appointed a committee to confer with the bondholders and creditors and invite them to make a full examination into the affairs of the company.

For several days trains have been run very irregularly, and in order to avoid attachments for debt in New York State, the only train run through to Middletown has been the milk train, to which the mail car is attached to protect it from seizure.

The Chancellor at the hearing, March 8, granted the order for a Receiver, and appointed Hon. Garrett A. Hobart, of Paterson, to that position. Mr. Hobart is a lawyer, has been a director of the company from the beginning, was for several years in the New Jersey Legislature and one year Speaker of the House.

#### Toledo, Wabash & Western.

Counterfeit bonds and coupons have been discovered in circulation in New York, and from investigations made it is thought that about \$50,000 of such bonds are afloat.

#### Tennessee Railroad Taxation.

The six judges of the Tennessee Supreme Court are equally divided in opinion in the case of the Louisville & Nashville Railroad Company vs. H. M. Austin et al., involving the validity of the State and county tax recently assessed on the 35 miles of said road in Sumner County, and consequently no decision can be given. The main point of difference is as to whether railroad property can be assessed at all without specific legislative authority, and merely under the general right to tax vested in the counties.

#### Maine Railroad Taxation.

In the United States Circuit Court in Portland, Me., George L. Ward, of Boston, a stockholder in the Maine Central Company, has filed a bill in equity to prevent the directors of the company paying and the State Treasurer from collecting any portion of the tax assessed by the State upon the railroad, on the ground that the tax is unconstitutional, inasmuch as it impairs the obligation of the contract which the State made with the Maine Central as expressed in the charter of that road.

#### Louisville, Paducah & Southwestern.

An ordinance authorizing the city to loan this company \$600,000 has passed the lower branch of the Louisville City Council.

#### Fond du Lac, Amboy & Peoria.

Arrangements have been made for the consolidation of the Illinois and Wisconsin companies of this name, which purpose building a narrow-gauge road from Peoria, Ill., northeast to Fond du Lac, Wis.

#### Bay Ridge.

Subscriptions amounting to \$70,000 have been secured, and as soon as \$100,000 is raised the company will be organized and work begun. The road is to extend from New York Bay at Bay Ridge, just below Brooklyn, northeast seven miles to East New York.

#### Jefferson City, Lebanon & Southwestern.

The directors met in Jefferson City, Mo., March 2, and awarded the contract for the construction of their road to the Southwestern Construction Company, represented by S. O. Hemenway. One other bid was by M. S. Carter and associates, of St. Louis.

#### New Mail Route.

An extension of mail service has been ordered over the Mississippi Valley & Western road, from West Quincy, Mo., to Hannibal, Mo., 12 miles.

#### Pittsburgh, Washington & Baltimore.

The Baltimore Gazette says: "An important ordinance has been introduced in the City Council which provides for the sale of the interest of the city in the second-mortgage bonds of this road to the Baltimore & Ohio Railroad Company for the sum of \$1,000,000 to be paid in yearly installments of \$40,000 each—the first payment to be made July 1, 1876, with interest payable semi-annually until the whole is liquidated. To secure the payment of the principal and interest a mortgage is to be executed to the city of all the real and personal estate of the company."

"The second mortgage now held by the city on the road amounts at this time to about \$2,500,000, of which between \$300,000 and \$400,000 consists of interest unpaid, and compound interest. All the city directors in the road recommend the sale to the Baltimore & Ohio Company on the terms proposed. It is understood moreover that if this arrangement is perfected, the Baltimore & Ohio Company will proceed at once

to construct the Pittsburgh & Chicago cut-off, whereby a further saving in the distance to the latter city of 91 miles will be effected; or, estimated by the difference in grades, 113 miles."

#### Detroit & Bay City.

This road will hereafter be operated under the same management as the Michigan Central, and will be known as the Bay City Division of that road. Mr. T. B. Sargeant will remain in immediate charge of the line as Division Superintendent.

#### Cincinnati & Martinsville.

This road has been leased to the Indianapolis, Cincinnati & Lafayette and will be operated by that company hereafter. The terms of the lease are not made public. The road is 39 miles long, from the lessee's line at Fairland, Ind., west to the Indianapolis & Vincennes at Martinsville.

#### Selma, Marion & Memphis.

At the annual meeting in Memphis, Tenn., March 4, the stockholders resolved that unless means can be provided to complete the road at an early day it will be the duty of the directors to turn over the property to the trustees under the first mortgage.

#### Parkton & Manchester.

This road is to extend from the Northern Central at Parkton, Md., west, 14 miles to Manchester. The Commissioners of Baltimore County have been authorized to subscribe \$40,000 to the stock as soon as the work has gone so far that that amount will complete the grading and bridging. Arrangements are being made to push the work forward.

#### Oswego & State Line.

This newly-organized company purposes building a railroad from Oswego, Kan., east to the Memphis, Carthage & Northwestern at the Missouri State line, a distance of about 33 miles.

#### North Pennsylvania.

The steel rails for the new line to New York are now being delivered by the Bethlehem Iron Company, and are, for the present, being stored up at Lansdale, Pa., whence they will be taken as required.

The recent purchase of the stock in the company held by the City of Philadelphia, was made, it is stated, wholly on account of the desire of the purchasers, who are largely interested in the company, to protect their investment by holding a controlling interest. There was no reference to the Baltimore & Ohio, or its wish for a line to New York. The number of shares bought was 30,800, and the terms of sale are that the purchasers shall give 6 per cent. Philadelphia City loan at par for the stock at par, which, at the present price of the loans (104½%), is equal to 52½% per share, the par value being \$50. This is about the current price on the Philadelphia Stock Exchange. The payment will absorb \$1,540,000 of the city loan, of which \$100,000 is to be paid down, and the balance in four annual installments.

#### Portland & Ogdensburg.

A special meeting was to be held in Portland, Me., March 10, to vote on the question of consolidating the company with the various corporations which are building its line through Vermont. The latter, the Montpelier & St. Johnsbury, the Essex County and the Lamolille Valley, have already held their meetings and voted to ratify the consolidation. As soon as that is completed, it is intended to retire all the outstanding debt and issue consolidated bonds covering the entire road. It is said that arrangements have been made to place enough of these bonds to secure the speedy completion of the road.

#### Cairo & Vincennes.

A passenger train on this road was seized in Vincennes, Ind., under an attachment for debt, but was subsequently replevined by the receivers. It is claimed that the attachment was illegal.

#### Cleveland, Columbus, Cincinnati & Indianapolis.

This company has made arrangements to move its Indianapolis shops to Brightwood, just outside of that city. A strip of land has been acquired extending along the tracks nearly half a mile, with an average depth of 400 feet and including the Greenleaf Company's shops, which will be used as car shops. Besides the shops the transfer platforms and stock yards will be moved to this point.

#### Columbus, Chicago & Indiana Central.

On petition of the defendants in the suit, an order has been granted removing the Haasler, or stockholders' suit from the New York Supreme Court to the United States Circuit Court.

#### Rockford, Rock Island & St. Louis.

It is reported that this company has sold to the Chicago, Burlington & Quincy its branch from Sagetown, Ill., north to Keithsburg. This branch, which is 18 miles long, does not anywhere connect with the main line.

#### Chicago & Pacific.

The track of this road was laid, February 23, as far as Killbuck, Ogile County, six miles west of the west line of Dakota County, and nine miles farther than at our last report.

#### St. Croix Land Grant.

In the case of Schlenker and others against Harrison, which involved the title to the lands commonly known as the St. Croix Land Grant, the Supreme Court of the United States has given a decision. The suit was brought to determine the ownership of some logs cut within the limits of the grant and afterwards seized by the State of Wisconsin. The Circuit Court decided in favor of the State and the Supreme Court on appeal has confirmed that decision, holding that while the conditions specified in the grant have not been fulfilled, nevertheless the grant cannot be forfeited except by judicial proceedings duly authorized by law or by some legislative assertion of ownership of the property for breach of the condition, such as an act directing the possession and appropriation of the property, or that it be offered for sale or settlement. The title to the lands embraced in the original grant is still, therefore, vested in the State of Wisconsin.

#### Canadian Pacific.

In the Canadian Parliament, March 5, the Premier announced the intentions of the Government as to this work. The Government is determined to push the work as rapidly as the circumstances of the country will permit, but will not begin until thoroughly familiar with the country through which the road will pass and its probable cost. It has been determined to use the stretches of water navigation between Ontario and Manitoba and Manitoba and the Pacific, without, however, forgetting that a railroad line is ultimately to be built for the whole distance. The Government has agreed to complete the road by 1890 and to expend \$2,000,000 per year in British Columbia until the road is finished. The entire route has been surveyed and the engineers are now preparing their reports, so that at the next session full particulars of the line and its estimated cost will be submitted to Parliament, after which tenders for its construction will be invited. The telegraph line is now being built. Contracts have been made for 50,000 tons of steel rails to be delivered at Montreal. The sum now asked for to continue the work is \$6,250,000.

The contract for the Georgian Bay Branch of 85 miles has been let to a firm of which Hon. A. B. Foster is the head. The contractors are to receive \$10,000 and 20,000 acres of land



per mile, and the Government in addition guarantees them 4 per cent. interest on \$7,500 per mile.

A subsidy of \$12,000 per mile is to be granted for a line, not to exceed 120 miles in length, to connect the Canada Central with the proposed line from the mouth of French River to Lake Nipissing. The eastern terminus is to be at a point where connection can be made with the Northern Colonization road.

The Department of Public Works invites tenders for the grading and bridging of the section from Lake of the Woods to Red River. Plans and specifications may be seen at the Engineer's office, Ottawa. Proposals must be delivered to F. Braun, Secretary, by March 18.

#### Savannah, Skidaway & Seaboard.

The Georgia Legislature has passed the act authorizing this company to take up its tracks in East and West Broad and Bay streets in Savannah, where they are not in use. Also releasing the company from its obligation to build and operate a horse railroad in Drayton street, in the same city.

#### Brunswick & Albany.

The suit brought against the company recently originated in a contract made with Col. B. G. Lockett, by which the bondholders who bought the road two years ago agreed that if he could secure the State endorsement on \$1,500,000 of the company's bonds, \$750,000 should be turned over to him to be used in extending the road to Eufaula. This contract was afterward annulled, and Col. Lockett brought suit. It is thought that the real object is to compel a transfer of the road to other parties by the present holders.

#### Cincinnati Southern.

The awards of the contracts for bridges for which proposals were called for some time since were made March 5. This completes the lettings on the road between the Cumberland and Ohio rivers, with the exception of the Kentucky River bridge, which is 275 feet high above the river. Bids for that bridge, superstructure and pier, will be received up to March 15. The contracts just awarded were as follows: American Bridge Company, Chicago, plate-girder bridge, Ludlow, \$4,825; trestle, 900 feet, section 4, \$16,980.63; trestle, 510 feet, section 10, \$22,418.42; iron bridge over Louisville, Cincinnati & Lexington road at Walton, \$2,421.25; truss girder, wood, section 65, \$595.75; truss girder, wood, section 66, \$451.92; wooden Howe truss, section 66, \$1,470; iron bridge over Elkhorn Creek, \$10,200; trestle and bridges at Lexington, \$15,741.98; Howe truss, Jessamine Creek, \$1,428; Howe truss, Harris Creek, \$1,250.50; trestle, 181½ feet, section 49, \$5,139.90; Green River Bridge, two spans, 80 feet each \$7,600; Cumberland River bridge, 635 feet, with trestles 660 feet, \$100,406.02; in all 13 contracts amounting to \$130,929.37. Keystone Bridge Company, Pittsburgh, trestle, 900 feet, section 3, near Ludlow, \$43,113.82; trestle, 510 feet, section 3, \$22,547.18; two contracts; total amount, \$65,661. Louisville Bridge & Iron Company, Eagle Creek Bridge, \$33,885.95; Hanging Fork Bridge, \$10,200; trestle, 1,200 feet, section 55, \$63,285.15; three contracts; total amount, \$107,371.10. The whole amount of these 18 bridge contracts is \$369,961.47.

Sealed proposals will be received for the grading and masonry of sections 57, 58 and 59, division D, including the completion of the King's Mountain tunnel, 1,000 lineal feet. Bids will be received until March 15. The successful bidder will have to purchase all the horses, carts, cars, tools, machinery and stores now in the hands of the trustees, including three hoisting and pumping engines with boilers.

#### Coast Line.

This company, which operates a street railroad in Savannah, is constructing a suburban line which is now graded from the terminus of the street line to Thunderbolt, four miles, and the iron and ties have been contracted for.

#### Old Colony.

A very well-executed counterfeit bond has been discovered in Boston and it is feared that others may be afloat. The bond is of the denomination of \$1,000, and of the issue payable in 1877.

#### Scioto Valley.

This company has been organized in Columbus, O., to build a railroad from that city southward to Portsmouth, O. The capital stock is to be \$2,000,000 and the incorporators are Wm. Manypenny, E. T. Mithoff, John Mitchell, I. Ewing Miller, W. B. Hayden, John C. English and John Joyce.

#### Louisville, New Albany & St. Louis.

At the annual meeting recently the Secretary reported that the funded debt amounts to \$810,766.42 and the floating debt to \$179,182.20, a total of \$989,948.62. The finished section of 26 miles from Princeton, Ind., to Albion, Ill., has earned enough during the year to pay operating expenses. All efforts to secure money to complete the road has been unsuccessful.

The old board of directors has declared the recent election illegal, as the law requiring four of the directors to be residents of Illinois was not complied with. A new election for an entire board was ordered to be held April 6. The new board will not recognize this action and the matter will probably go before the courts.

It is said that a movement is on foot for the foreclosure of the mortgage and the sale of the road to parties who are reported to be willing to finish it.

#### Benapselaer & Saratoga.

Notice has been given that the capital stock will be increased by the issue of \$1,000,000 new stock, in accordance with the lease to the Delaware & Hudson Canal Company, which provides that improvements made in the property by the lessee shall be paid for in stock.

#### Minnesota Railroad Law.

Both houses of the Minnesota Legislature have passed the bill repealing the railroad law of last year, and returning to the old system which merely provided for a single commissioner with advisory powers and no authority to regulate rates.

#### The Pennsylvania General Pipe Line Law.

The bill extending the provisions of the general law to companies formed to build and operate oil pipe lines has been defeated in the Pennsylvania Senate.

#### Maryland & Delaware.

A meeting of first-mortgage bondholders was held in Boston, March 4. The first-mortgage bonds amount to \$850,000 and there are also \$150,000 second-mortgage bonds outstanding. Objection was made to a foreclosure on account of the expense and the necessity of bringing two suits, the road running through two States. A committee was appointed to see if some agreement could not be made with the second-mortgage bondholders and stockholders, and the meeting adjourned subject to the call of the committee.

#### Memphis & Charleston.

Mr. Joseph Jacques, the retiring General Manager, has issued the following circular to the officers and employees:

"Having resigned the position of General Manager of the Memphis & Charleston Railroad, I must be permitted to express my heartfelt gratitude to the officers and employees of the road, who have, without exception, during my official connection with them, sustained and assisted me promptly and cheerfully in all my endeavors to protect and promote the interests of the company. During my connection with you, which commenced in 1872, your road, in common with other roads throughout the South, has

passed through trying ordeals, which required personal sacrifices and extraordinary exertions on the part of the officers and employees. In all difficulties a disposition to faithfully perform every duty has been manifested by you.

"In days to come I shall remember you kindly; as my association with you in the past, and the interest that I feel for you personally, as well as the interest that I feel in the prosperity of your road, will never allow me to forget you.

"I bespeak for my successor, Col. C. M. McGhee, the courtesy and kindness which you have so uniformly extended to me.

"With a sincere desire for your future prosperity and happiness, I am, as ever, your friend."

#### Bridgeton & Port Norris.

A track is to be built to connect with the New Jersey Southern at Bridgeton, N. J.

#### Columbus, McArthur & Gallipolis.

Arrangements are being made to complete a section of eight miles from Karne's Grove, O., east to the Marietta & Cincinnati road. If this is done the Gallipolis people agree to complete their end of the road from Gallipolis northwest to Vinton on the Marietta & Cincinnati, a distance of 30 miles.

#### Atlantic & Gulf.

This company has obtained from the Florida Legislature authority to extend its Florida Division from the present terminus at Live Oak southward.

#### Port Royal.

The employees who struck have returned to work, the President having agreed to divide \$1,000 among them at once and to pay out to them the daily receipts of the road until their claims are satisfied. The suits commenced by the employees have not been discontinued, however, and nearly all the property has been put under attachment.

Holders of the company's bonds are requested to meet at the office of Marx & Co., No. 50 Exchange place, New York, March 16, at 3 p. m., to consider what measures can be taken to protect their interests.

#### Boston, Hartford & Erie.

On application of the trustees, who have operated the road since September, 1871, for an order transferring the road to the New York & New England Company, on that company's giving security to settle all claims and accounts against the trustees, the Massachusetts Supreme Court gives notice that a hearing will be held in Boston, March 17, when all persons interested can appear and show cause, if any there be, why the order asked for should not be granted.

#### New York, New Haven & Hartford.

The New Haven shops are running ten hours per day, after several months of short time.

The company has completed a new freight depot in New York at the foot of Montgomery street, East River. The freight house on the pier is 300 by 50 feet. The freight is carried thence by boats to the river terminus of the Harlem River Branch.

#### Toledo, Peoria & Warsaw.

The Receiver, Mr. A. L. Hopkins, reports that he took possession February 1, and immediately made an inspection of the road. He found it in a very bad condition, both as to road-bed and superstructure, with some of the track and bridges actually unsafe. There was due to employees for January \$30,469 and for current supplies \$21,833. There are also due considerable balances to connecting roads, which should be paid. The Court made an order permitting the payment or adjustment of the accounts.

#### New Jersey Southern.

It is rumored that agents of the Baltimore & Ohio are trying to buy a controlling interest in the stock of this company and that as high as 12 has been bid for shares which have not sold above 3 or 4 for several months. Ownership of the stock would not, however, give possession of the road unless the holders were prepared to pay up the overdue coupons on the first mortgage bonds, the trustees under that mortgage now holding the road.

#### Philadelphia & New York.

A mortgage for \$800,006 has been put on record in Bucks County, Pa., by this company, which was organized in 1868, and purposes to build a road from Philadelphia to Delaware near Yardleyville.

#### Central of Iowa.

Mr. A. L. Hatch, a former director and treasurer, has issued a circular recommending that the mortgage be foreclosed at once and a new company organized. Mr. Hatch has prepared an agreement and plan of reorganization which bondholders are invited to sign.

#### New York, Kingston & Syracuse.

By the order of sale in the foreclosure suit the Farmers' Loan & Trust Company, trustee under both mortgages, is authorized to buy the road for the benefit of the bondholders. Parties interested are requested to deposit their bonds at the office of the trustee, No. 26 Exchange place, New York, where a copy of the agreement to be signed by bondholders can be seen.

#### Burlington & Southwestern.

The Missouri Division, which is now operated by the Northern Construction Company, is open from Laclede, Mo., to Acornville, 23 miles. The trains run to and from Brookfield, using five miles of the Hannibal & St. Joseph, from Laclede to Brookfield.

#### Montreal, Chambly & Sorel.

The Toronto (Ont.) *Monetary Times* says: "The bridge over the Richelieu River has been finished, as also the bridge across the Chambly Canal, while the road from Chambly to the boundary line is partly graded. The section of the road between St. Lambert and Chambly has been in active operation since completion, and 18,310 passengers have been carried, besides 1,386 tons of freight. Total receipts, \$10,118. The masonry and station work on the road between the Province Line and Chambly is well advanced, and the directors hope shortly to obtain joint use of the Victoria Bridge."

#### Southeastern of Canada.

A number of suits have been brought against this company by sufferers from the accident at Sutton, P. Q., in August last, when a train ran into the river where a bridge had been washed away. Attachments have been put on all the company's property.

#### Quincy & St. Paul.

The projectors of this road have been endeavoring to secure subscriptions in St. Louis.

#### St. Louis, Iron Mountain & Southern.

The details of the proposition submitted by this company to its bondholders provide for the funding in interest-bearing certificates of the following coupons: Three coupons, beginning with July, 1875, from Cairo & Fulton first mortgage bonds; three, beginning with Jan., 1875, from Arkansas Branch bonds; three coupons, beginning with June, 1875, from Cairo, Arkansas & Texas bonds; three, beginning with May, 1875, from St. Louis & Iron Mountain second-mortgage bonds; four, beginning with April, 1875, from consolidated mortgage bonds; four, beginning with August, 1875, from Cairo & Fulton income bonds. The certificates will be payable

in gold on all except the Cairo & Fulton income bonds, which will be payable in currency. The whole amount of gold certificates to be issued will be \$2,110,955; currency, \$153,400; total, \$2,269,355. The interest on St. Louis & Iron Mountain first-mortgage bonds will continue to be paid. The agreement is to take effect when the holders of 80 per cent. of the whole amount of bonds to be included shall have assented thereto.

The object of the proposition is to enable the earnings of the road to be used to clear off the heavy floating debt, much of which is pressing for payment.

#### Valley, of Ohio.

The President of this company reports that the grading of 40 miles is completed and 16 miles more are in such condition that a few weeks of vigorous work will have the whole line from Cleveland to Canton, 56 miles, ready for the rails. Only three bridges, one at Cleveland and two at Akron, 66 feet span each, remain to be put up. On the section from Canton to Mineral Point contracts for the heavy work have been let at low rates; the local subscriptions are enough to pay for all this work, and the right of way is secured. From Mineral Point to Wheeling the road is located, and a reconnaissance has been made of the branch from Mineral Point to Canal Dover, showing a very favorable line. In locating the road the Engineer has adhered strictly to the original idea, which was to build a main line through the coal region with a light grade, and reach the coal not immediately upon the line by spurs of such grade as the topography of the country might require, and not encumber the main line with heavy grades.

A temporary loan has been made sufficient to pay off the floating debt, and payments on stock subscription will provide for this loan as it falls due. The total expenditures on the road up to December 1 were \$738,099.27. The amount of the stock subscribed for is \$918,450, the authorized capital stock being \$3,000,000.

#### Macon & Brunswick.

The special committee of the Georgia Legislature has presented a report detailing the circumstances under which the State endorsement was given to the bonds of this road. The conclusion arrived at is that, in spite of some irregularities, the endorsement on \$1,950,000 first-mortgage bonds is valid, and the State must provide for them; that the endorsement on the \$600,000 second-mortgage bonds, however, is clearly illegal, and it is recommended that the State refuse to recognize its validity.

#### Chester & Tamaroa.

The United States Circuit Court at Springfield, Ill., has decided that the bonds issued by the town of Tamaroa, Ill., in aid of this road are illegal and void.

#### Sonoma Valley.

A company by this name has been organized with a capital of \$100,000 to build a road on the rimoidal one-track system from Sonoma, Cal., to deep water in Sonoma Creek, near San Pablo Bay, a distance of seven miles. The incorporators are A. S. Edwards, G. S. Wratten, Leonard Goss, M. McPherson, W. H. McGrew, Charles Kohler, Henry Winkle, S. Heydenfeldt, I. S. Kohn.

#### Standish & Au Sable.

It is proposed to build a railroad from the Jackson, Lansing & Saginaw at Standish, Mich., northeast to Au Sable, a distance of about 45 miles. The road would run nearly parallel to the northwest shore of Saginaw Bay and would open up large plaster beds and an extensive lumber region.

#### Muncie, Frankfort & Western.

A company by this name has been organized to build a railroad from Muncie, Ind., west to Lafayette. It is proposed to use the road-bed which was partly graded for the Lafayette, Muncie & Bloomington road. The capital stock is to be \$1,400,000 and the road will be about 90 miles long.

#### Perry County.

A company has been organized to build a railroad seven miles long from the Ohio River at Troy, Perry County, Ind., to a coal mine in Huff township. The capital stock will be \$50,000 and the incorporators are: John H. Duhme, Wm. T. Washer, Solomon Salen, E. M. Evans, A. J. Dushme, C. H. Dunneman, and Nicholas Dins.

#### Springfield & Illinois Southeastern.

It is stated that the bondholders who purchased the road at the foreclosure sale have sold and conveyed it to the Ohio & Mississippi Company for \$1,750,000. That company took possession February 27, but no change has yet been made in the management.

The road is 228 miles long, from Beardstown, Ill., southeast through Springfield to Shawneetown on the Ohio River. It crosses the Ohio & Mississippi at Flora, 74 miles from Shawneetown. It was built about three years ago, but has not been financially successful, having been sold under foreclosure some months since.

#### Green Bay & Minnesota.

Congress at its recent session passed a bill authorizing this company to construct a pontoon bridge over the Mississippi near Winona, Minn. The bridge is to be similar in construction to the one now in use at Prairie du Chien.

#### Leavenworth, Lawrence & Galveston.

The motion for a receiver in the foreclosure suit came up before the United States Supreme Court at Davenport, Ia., March 4. On motion the Farmers' Loan & Trust Company, of New York, trustee, was joined in the suit as one of the plaintiffs. The court granted the application for a receiver, and appointed Major B. S. Henning, now Superintendent of the road.

#### Southern Minnesota.

Notice is given that the coupons due October 1, 1874, and April 1, 1875, on the bonds of the issue of August 8, 1864, will be paid by the Clerk of the United States Circuit Court at St. Paul, Minn.

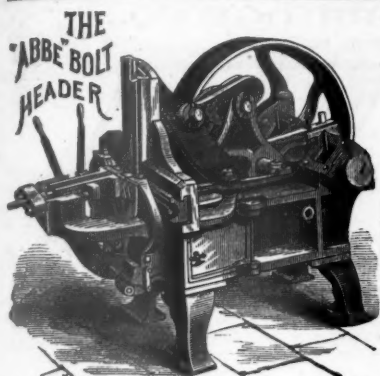
#### Cumberland & Ohio.

A special meeting of the stockholders was held February 25, to consider the expediency of mortgaging certain sections of the road the grading of which is finished, or nearly so. The President stated that the policy of building the road in sections had been made necessary by the conditions of some of the county subscriptions. The present condition of the work is as follows: The graduation and masonry from Eminence, on the Louisville, Cincinnati & Lexington Railroad, to the Nelson County line, a distance of 34 miles, will be completed by May 15, and the work from the Nelson County line to Bloomfield is advertised to let, and can be finished within five months. This will give 38 miles of road-bed ready for the superstructure by July 15, the company having ample local means to pay for the graduation and masonry. To finish this part of the road and equip it for local traffic will require \$475,317, \$12,505 per mile. The graduation and masonry from Lebanon to Greensburg, 31 miles, are finished, and out of the local means of Marion, Taylor and Green counties, there has been purchased and delivered at Lebanon two-thirds of the rails for this division. To complete and equip it ready for local traffic would require \$241,718, \$7,800 per mile. The road-bed from Scottsville, Allen County, to Gallatin, Tenn., is not so well advanced as either of the above divisions, and it will require about \$100,000 to complete the graduation and masonry upon the 34 miles of work under contract between the points designated above. Since the decision of the company's suit





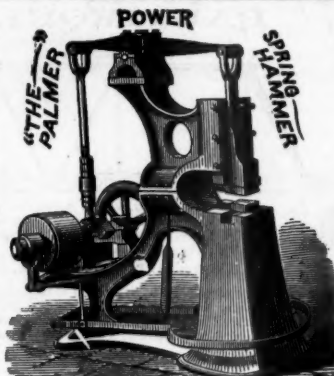




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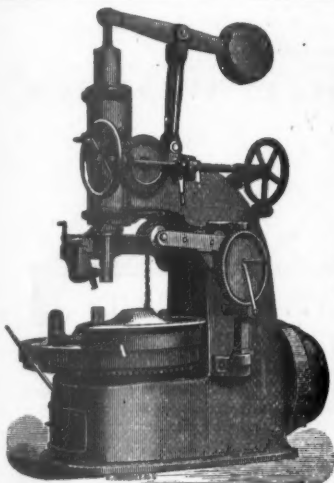
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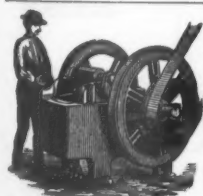
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The ringer consists of a steam cylinder A, steam chest B, with balance valve E, operated by the tappet L on the piston rod. The bell rod is a continuation of the piston rod, and attached to bell crank. The valve E receives steam in the centre and exhausts at the ends. H H are relief passages, allowing the air or vapor in the end of cylinder to escape around the piston I, and by removing the resistance allow the piston freedom to follow the movement of the bell until it stops.

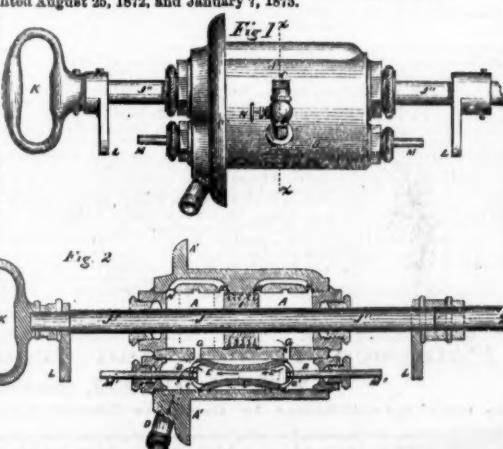
This Bell Ringer, which operates automatically, always settles the question in a suit for damages whether "the bell was ringing," thereby saving many thousands of dollars to railroad companies. We shall be glad to send one to you for trial—to be paid for only when you are perfectly satisfied with its workings. The best proof of this is that we have adopted it as our standard, and are putting it on all our engines. It has given better results than any we have tried.

Approved, Wm. B. Strong, Assistant General Superintendent.  
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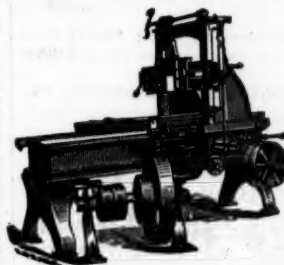
Third.—The saving of time is also a great consideration, as the engineer alone can couple a train of cars in much less time than with the aid of two or three men with the ordinary coupling.

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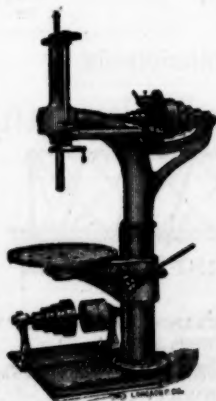
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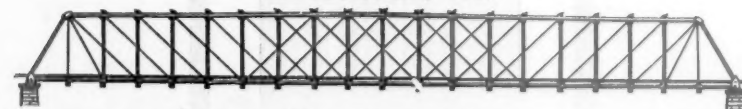
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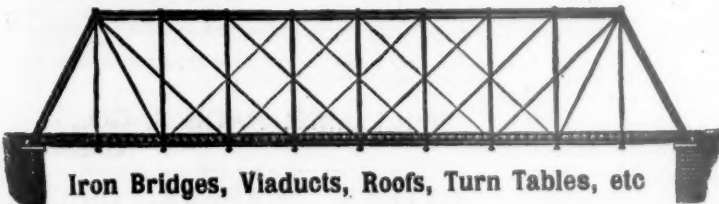
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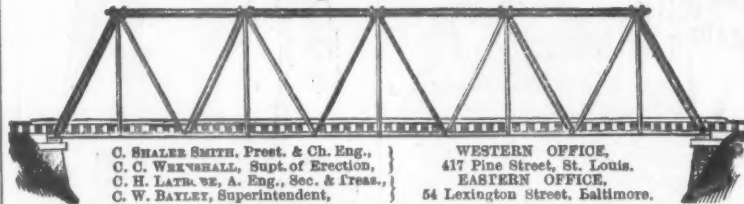
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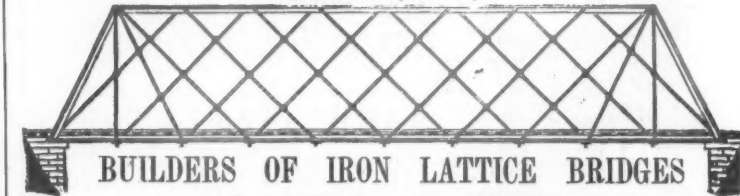
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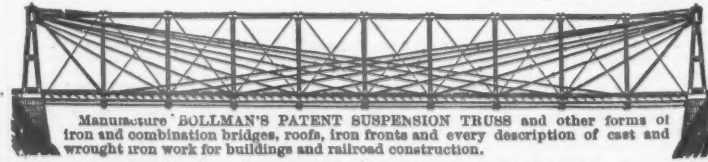
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